CONNECTING YOUR "DSR9500"

1. LOCATION OF THE RECEIVER

Your DSR9500 should be placed under proper ventilation.
Don't put in completely enclosed cabinet that will restrict the flow of air, resulting in overheating.
The location should be safeguarded from direct sunlight, excess moisture, rough handling or household pets.
Avoid stacking other electronic components on the top of the receiver.
The location should be safely accessible by the cable from your antenna system.

2. CONNECTING THE RECEIVER WITH DISH SYSTEM

After installing your antenna system, connect the coaxial cable from the LNB of your antenna to "LNB" terminal marked at the rear of the DSR9500.
All cable connectors should be finger tightened; do not use any kind of wrench while tightenning connectors. The cable should be 75ohm impedance coaxial twisted at the end with an "F" type connector.

3. CONNECTING THE RECEIVER TO TV

To connect the receiver with your television, you can use three methods; via Scart Cable, RF cable, or RCA cable.
Connect the RF cable to the terminal marked "TV" at the rear panel of DSR9500 and its other end to the TV RF input socket.
In the case of connecting your TV through SCART cable, connect the SCART connector marked TV to the respective SCART port on the TV.

4. CONNECTING YOUR ANALOG RECEIVER

To facilitate the user using analog receiver to view analog channels, DSR9500 has been provided with a loop through terminal marked as "LOOP".
Connect the coaxial cable from this terminal to the IF input terminal of your analog receiver. Now by keeping the DSR9500 in standby, you will be able to tune and view analog channels from your analog receiver.

5. CONNECTING YOUR VCR

To connect a VCR, the DSR9500 has been provided with SCART at the rear marked "VCR".
Using a SCART connector, the VCR can be connected to the receiver.

6. CONNECTING EXTERNAL AUDIO / HI-FI SYSTEM

To connect any external Audio Hi-Fi system, the receiver has been provided with two RCA connectors at the back of the receiver, marked with AUDIO L and R respectively to connect the left and right Audio.

7. INSERTING SMARTCARDS FOR VIACCESS SERVICES

In order to view a scrambled service, you need to have the appropriate conditional Access Module and a valid Smartcard. This DSR9500 has the Viaccess CAS embedded to view Viaccess programmes.

Note : Insert the Smartcard with the gold coloured chip facing downwards.

8. INSERTING COMMON INTERFACE CAM AND SMARTCARD

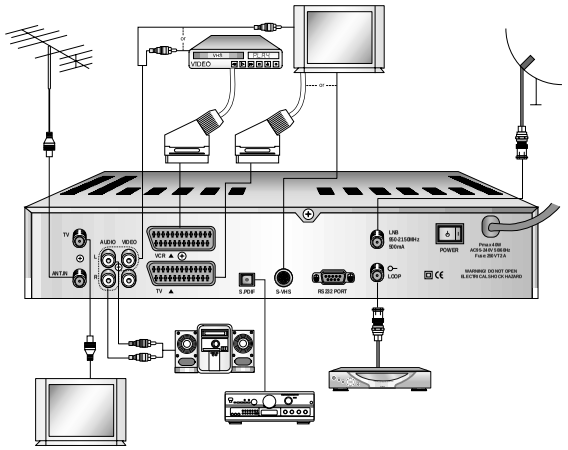
(For models DSR 9500 CI, DSR 9500 VIA CI)

The DSR 9500 supports Common Interface CAMs under DVB specification.
The CI CAMs include a built-in smart card reader.

- Insert the smart card into the CAM gently with the gold colored chip upwards
- Slide in the CAM gently inside the slot so that it sits in the socket tightly.
- Close the door.
- To remove the CAM push the button provided by the side of the CAM slot. The CAM will be ejected from the socket.

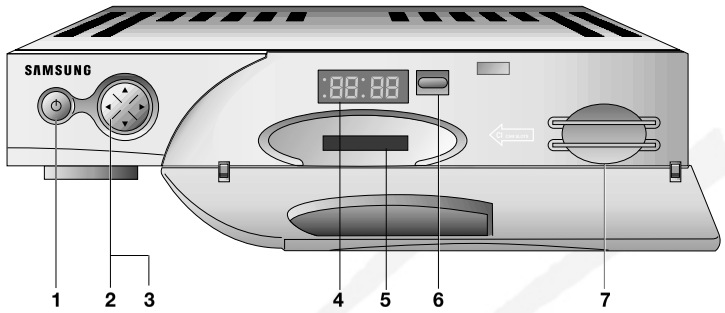
Note : The following Common Interface CAMs are available now:
IRDETO, CONAX, CRYPTOWORKS, VIACCESS, NAGRAVISION, SECA, Etc.

Connecting Figure



DESCRIPTION

Front Panel



1. ⏻ This key is used to turn the receiver on and off (Standby).

2. ▲ , ▼ These keys are used to change the channels.

3. ◀ , ▶ These keys are used to increase and decrease the volume level manually.

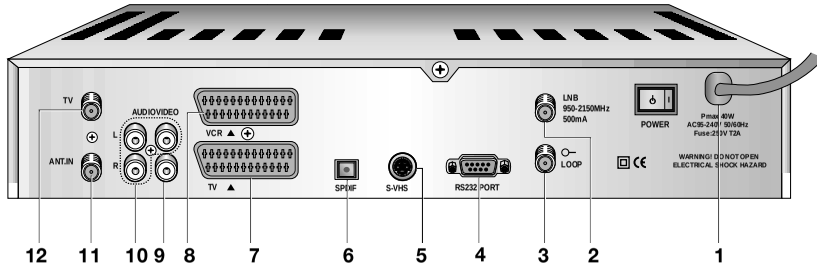
4. 7 Segment Display This LED display will show the current channel number. While the receiver is in Standby mode, the display will show the current time.

5. CAM Slot Slot for Common Interface. (For models DSR 9500 CI, DSR 9500 VIA CI)

6. Infrared Sensor This is to receive the IR commands from the Remote Control Unit.

7. Card Slot Slot for Viaccess smartcard. (For models DSR 9500 VIA, DSR 9500 VIA CI)

Rear Panel



1. AC MAINS This is to plug in the AC mains power cord. The input AC voltage range is 95V to 240V, 50Hz/60Hz supply.

2. LNB This port is to connect the coaxial cable from LNB of your dish. The IF input is provided through this port and the input frequency range is 950-2150 MHz. Also the voltage switching 13V and 18V is passed through this port.

3. LOOP To enable the connection of an Analog receiver, The receiver is provided with this LOOP port.

4. RS 232 DATA PORT This is used to connect your receiver to a computer for reading and loading data information.

5. S-VHS This is used to connect STB to your TV by using S-VHS cable.

6. SPDIF Output for connection to a digital amplifier.

7. TV SCART This is used to connect to your TV.

8. VCR SCART This is used to connect to your VCR.

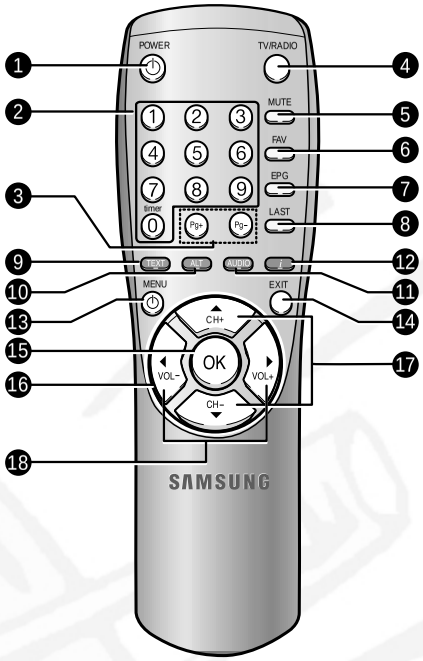
9. 0/12V This is used to connect to an external LNB switch.

10. VIDEO, AUDIO R/L These RCA connectors are used to connect any external video and audio.

11. ANT.IN This is used to connect your local RF channels to your TV through Loop.

12. TV This is used to connect to your TV via RF cable.

Remote Control Unit



Note : When inserting batteries, make sure that the polarity(+/-) is correct.

1. POWER( ) This is used to switch the receiver ON/STANDBY mode.

2. 0-9 Numerical keys (0 ~ 9)
These keys are to enter numeric values and to select the channel directly by entering its number.

3. Pg+/Pg-(,) These keys are used to move up or down pages the menu.

4. TV/RADIO This key is used to toggle between the TV channel and Radio channel.

5. MUTE This key is used to toggle between normal & muted audio.

6. FAV Use the key to switch between favorite lists.

7. EPG Electronic Program Guide button displays the TV/Radio Program guide.

8. LAST This key is used to call up directly whatever channel you were watching list.

9. TEXT(GREEN) (TEXT) This key is used to select the subtitle mode.
This button functions same as the GREEN button on the menu.
Press once and subtitle appears. You can select the language you want using the channel +/- keys.
Press twice and Teletext with OSD appears.
Press three times and Teletext with VBI appears.

10. ALT(YELLOW) (ALT) This key is used to select the soundtrack list for the current service.
This button functions same as the YELLOW button on the menu.
Press once and sound track appears.
Press twice and video track appears.
The sound and video track services are not provided for every channel and depend on the conditions the operator is in.

11. AUDIO(BLUE) (AUDIO) This key is used to change the Audio to the left, right or both channels,
This button functions same as the BLUE button on the menu.

12. INFORMATION (RED) (/) This key is used to display the programe information box in the screen.
This button functions same as the RED button on the menu. Press once and you can get simple information on the program. Press twice and you can get detailed information on the channel in text box.

13. MENU This key is used to open up the menu or return to the previous menu.

14. EXIT This key is used to exit a menu or return to the previous menu.

15. OK(OK) This key is used to enter and confirm any data to the receiver in the menu system. This key is used to select the item. Press while viewing TV and a list of channels is displayed.

16. ◀ ▶ , ▲ ▼ (,) These keys are used to move the highlight bar for selecting options on the menu, and this button is used to change channels and increase or decrease the volume.

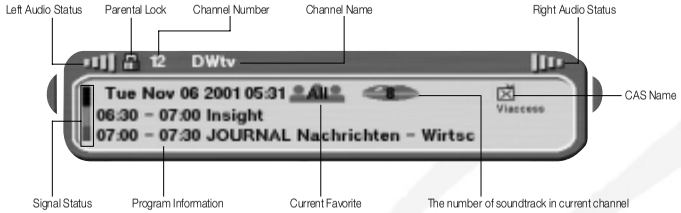
17. CH+/CH-( ) These keys are used to change channels.

18. VOL+/VOL-( ) These keys are used to increase or decrease the volume.
These keys are used to move up or down pages on the channel list.

BASIC FUNCTIONS

1. Display Screen

Before you can view the television program, you must perform the installation.
Therefore you will see only menu images at first.
After the television channels have been programmed, you will see the following picture(banner) each time you switch channels:



- Press the **Red (** i **)** key in view mode.
- Select the channel by pressing **Numerical (** 0 ~ 9 **)** keys or ∧/∨ keys and select **TV/RADIO** key to move to TV or Radio channel.

You will also see this picture each time you change channels.
When you press **TV/RADIO** key on the Remote Control Unit, **TV** and **Radio** program are toggled.

Detailed program information

- Press the **Red** (i) key twice while you are viewing a program.

First you will see the banner described above.
After pressing the **Red** (i) key a second time you will receive detailed program information.

Note **:** This service depends on service provider.

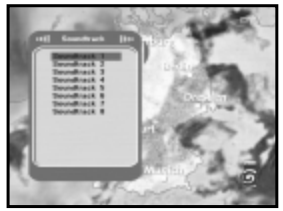
2. Volume Control

To control the volume level :

- Press 〈/〉 keys to adjust the volume level.
- Press **MUTE** key to turn to silence mode.
- Press **MUTE** key again in order to cancel the mute function.

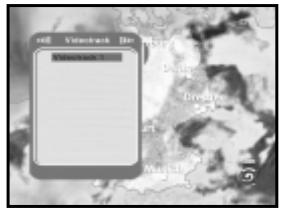
3. Select Soundtrack

- Press **Yellow** (ALT) key to see the soundtrack list.
- Press ∧/∨ and OK key to select one.



4. Select Videotrack

- Press **Yellow** (ALT) key twice to see the videotrack list.
- Press ∧/∨ and OK key to select one.



5. Service List

- Press OK key to while you are viewing a program.
- Select list by pressing **TV/RADIO** or **FAV** key.

  The icon 🔑 behind the channel name symbolises scrambled channel, and the 🔒 icon behind the channel name symbolises lock channel.

- Select the channel by pressing ∧/∨, P+ / P-.
- Press OK key to watch that channel.

The colour key corresponds the following service list.

- **Green** (TEXT) key - **Favorites**
- **Yellow** (ALT) key - **Alphabetical**
- **Blue** (AUDIO) key - **Provider**
- **Red** (i) key - **Transponder**

BASIC FUNCTIONS

5.1 Service Favorites

- Press the **Green (TEXT)** key on the control unit to select the Favorites list.
- Use the ▲/▼, P+/P- keys to select a favorite group that you want.
- Press the **Green (TEXT)** key to toggle group and channel list.

5.2 Service Alphabetical

- Press the **Yellow (ALT)** key on the remote control unit to select the Alphabetical list.
- Use the ▲/▼, P+/P- keys to select a Alphabetical group that you want.
- Press the **Yellow (ALT)** key to toggle group and channel list.

5.3 Service Provider

- Press the **Blue (AUDIO)** key on the remote control unit to select the Provider list.
- Use the ▲/▼, P+/P- keys to select a Provider group that you want.
- Press the **Blue (AUDIO)** key to toggle group and channel list.

5.4 Service Transponder

- Press the **Red (i)** key on the remote control unit to select the Transponder list.
- Use the ▲/▼, P+/P- keys to select a Transponder group that you want.
- Press the **Red (i)** key to toggle group and channel list.

6. Program Information

EPG-Electronic Program Guide
The electronic program guide gives you a channel list for the channels.

Note : 1. This service depends on service provider.
2. After receiver recognized the GMT-time from the signal which takes few seconds, it can display correct EPG information.

- Press **EPG** key while you are viewing a program.

This function is displayed on the screen by using only time.
You will see "**EPG**" in the LED display of the receiver.

- **Green** (TEXT) key - Use to display the program list until this day last week by going back per one day.
- **Yellow** (ALT) key - Use to display the program list until this day next week by going forward per one day.
- ◀/▶ keys - Use to display the program list by 30minutes per block.

With the **TV/RADIO** or **FAV** key you can browse among the various programs lists.

- Select the channel by pressing ▲/▼, P+/P- keys and press OK key to watch this channel.

7. Subtitle

When the current broadcasting program provides subtitle, press the **Green (TEXT)** key to see the current subtitle language list.

To change the subtitle language:

- Press the **Green (TEXT)** key to see the subtitle language List.
- Use the ◀/▶ keys to select a subtitle language you want.
- Press the OK key and then the subtitle language you want is displayed
The menu display is carefully created and user friendly to assure the easy operation of the receiver by the user. The main menu is classified into Six sub menus which will carry out the various operations individually.

8. Teletext OSD

When the current broadcasting program provides Teletext OSD, press the **Green (TEXT)** key twice to see the current Teletext OSD list.

To change the Teletext OSD:

- Use the ◁/▷ keys to select a **Teletext OSD** you want.
- Press the OK key and then the **Teletext OSD** you want is displayed on the screen.

9. Teletext VBI

When the current broadcasting program provides **Teletext VBI**, press the **Green (TEXT)** key three times to see the current Teletext VBI list.

To change the Teletext VBI:

- Use the ◁ / ▷ keys to select a **Teletext VBI** you want.
- Press the OK key and then the **Teletext VBI** you want is displayed on the screen.

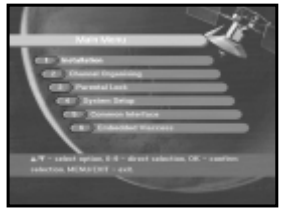
OPERATING THE RECEIVER

Main Menu

After installing your antenna system and DSR9500 with appropriate connectors.

- Plug in the AC main power and switch on the receiver.
- Press **MENU** key to bring up the main menu.
  The **LED** display will show "**MENU**".

The following on screen display will appear:



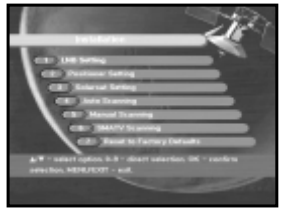
The sub menu topics will be displayed from 1 to 6.
For the sub-menus 1, 2 and 3 you need the PIN code.

- You must follow the help message at the bottom of the screen!

Before you begin with the "Installation" menu, you should check in the 4th menu "System Setup" whether all the information there is applicable for you.

1. Installation

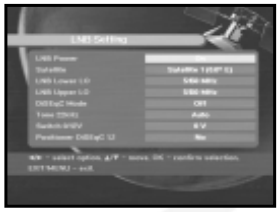
The menu provides settings for customizing, adding new services and displaying the status of the receiver.



- Select "**Installation**" in the main menu mode to select the sub menu.
- Enter the **PIN** code.

If you have not entered your own **PIN** code then the **PIN** code **0000** applies, which was set at the factory.

1.1 LNB Setting



You can select the satellite and LNB setting conditions to execute channel search and you can alter the settings for 22KHz tone. The parameters set in this menu are needed for programming the channels for the "**Auto scanning**" and "**Manual scanning**".
The necessary information can be found at your antenna and LNB brochures, or you can ask your dealer.

- Select LNB power supply "**On**".
- Select the desired satellite name.
- Select the LNB type (frequency).
- Select the DiSEqC Mode
  (Off, DiSEqC A, DiSEqC B, DiSEqC C, DiSEqC D, Tone Burst A, Tone Burst B)

If you are using a Positioner, select this option. (**Yes** or **No**)

22KHz: In case you are using a dual LNB or two antennas connected to a 22KHz tone switch box, with the 22 KHz tone switch ("**On**", "**Off**" or "**Auto**") you can switch between both LNB or antennas.

1.2 Positioner Setting

If you have a DiSEqC 1.2 motorized system, then you can take advantage of the DiSEqC 1.2 functions available.

- Select Satellite.
- Select any transponder from above satellites and check out the Frequency, Symbol Rate, FEC and Polarity.

In case problems arise, ask your dealer.

- Select from Menu Mode:

"**User**" mode : Enables control of basic positioner function recommended for beginners. General user uses **User** mode.

"**Installer**" mode : Complete control of the positioner s full functions recommended for installers and professional users.

1.2.1 User Mode

- **Select Driving Mode:**
  You have an option to choose the positioner s movement type: Continuous, Step or Time.
- Position the antenna with north, south, east and west and use the ◄/►,▲/▼ key to drive motor. key drives to west, ► key drives to east, ▲ key drives to north and ▼ key drives to south.
- If you finished driving of motor, select **Store current Position.** and press OK key, to reset new driving motor.

Note **:** The level indicated in the Signal Status is only for reference. The signal quality may be adequate even though the level indicated is not maximum.

- Go to Stored Position.

When the stored position is reached then screen displays "**Stop**", you can now continue with the further operations.

- Select the Calculate Sat Positions to recalculate the satellite position and OK key.

1.2.2 Installer Mode

After checking the positioner s state, installer should use this menu. He should set the **Disable Limits** before using User mode.

- Select the Drive Motor West/East and use the ◁/▷ keys to drive motor.
  ◁ key drives to west and ▷ key drives to east.
- Select **Enable Limit** , in order to enable **Set Limit** .
- Select **Disable Limit** , in order to disable **Set Limit** .
- Select **Reset Positioner** and OK key to reset positioner.

1.3 Solarsat Setting

This menu is only for the Solarsat antenna.
When you press this menu, you will get this message, **This menu is only for the Solarsat antenna. If you have one-press OK, otherwise-press EXIT**.

You can set the value according to your location.

- To set the Value of Date and Time, use the P+ / P- keys to change the value.
- Use the ◁/▷ keys to change position.
- Use the ◁/▷ keys to move each filed.

1.4 Auto Scanning

The sub menu Auto Scanning will enable download of off-air channels automatically from the preprogrammed satellites.

To download channels automatically:
You can select All/Off/Only Free option mode in each satellite.

Off : No Scan
All : Scan all the channels
Only Free : Scan free channels

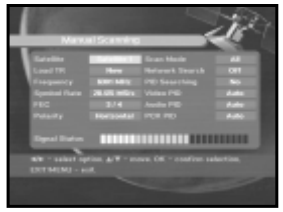
- Press OK key.

Auto Scanning menu will be displayed.

All the channels in the list from the selected satellite will be automatically downloaded.
After scanning you will see "**Your digital receiver found...**" .
Afterwards you return to Auto Scanning menu.

1.5 Manual Scanning

To tune-in new channels and weak signals, the DSR9500 has been provided with the option "**Manual Scanning**" where the channel data can be entered by the user. After selecting the "**5. Manual Scanning**" from the Installation Menu, the following screen will be displayed:



- Select the target satellite for manual search.
- Load a transponder.
  This option will enable the user to load any transponder from the preprogrammed list available within the receiver.

Note **:** When you enter Frequency after setting Load TR to New, the entered information must include at least one channel to make channel save possible.

- Input the frequency of the transponder you want to find.
- Input the symbol rate of the transponder you want to find.

- Select the FEC(Forward Error Correction)of the transponder you want to find.
  You can select the value of 1/2, 2/3, 3/4, 5/6, 7/8 or Auto.
- Select the polarization of the transponder you want to find.
  (Horizontal/Vertical/Circular Left/Circular Right)
  In the case of horizontal, 18V and in the case of vertical, 13V are output through LNB line.
- Select Scan Mode **All** or **Only Free** .
- Select Network Search **Yes** .
  You can find more transponders using the home network.
- Select PID searching **Yes** . You can manually search by entering individual PID(Packet Identifier)(Video/Audio/PCR) values.
- After select option, press (OK) key to start the scan process.

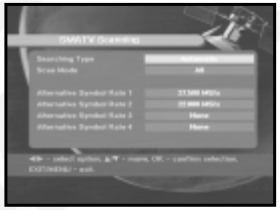
1.6 SMATV Scanning

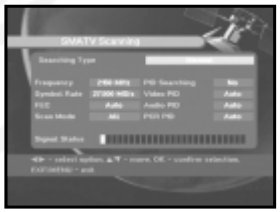
In case that several generations use Antenna and LNB in common, search the service the from 950 to 2150MHz.

- Select Searching Type **Automatic** or **Manual** .
- Select Scan Mode **All** or **Only Free** .
- You can input alternative symbol rate from 1 to 4

Note : 1. When your searching type is set to Automatic during **SMATV** scanning, you have only to enter the alternative symbol rate(1~4) you want.

2. When your searching type is set to Manual during **SMATV** scanning, you must enter both frequency and symbol rate.





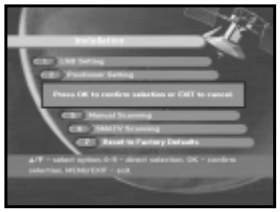
1.7 Reset to Factory Defaults

This to restore the factory set values in case the user has encountered some problems after changing any values of channel data and others which may be in error.

The screen display will be as follows:

At the request window,
if you press (OK) key, the receiver will be reset to factory default settings automatically.

Note : This cause your previous settings to be deleted!



2. Channel Organising

The "**Channel Organising**" menu has seven functions:
The "**Channel Organising**" menu is used to delete the Satellites, Transponders and Channels or to make Favorite channels or move channel as you want.

- Enter the **PIN** code.

If you have not entered your own **PIN** code **PIN** code **0000** applies, which was set at the factory.

2.1 Delete Satellite

- Select the desired satellite list you want to delete by pressing **Red ( )** key.
- Press (OK) key for confirmation.

Note : This feature doesn t delete satellite itself but deletes the list of channels registered for satellite.

2.2 Delete Transponder

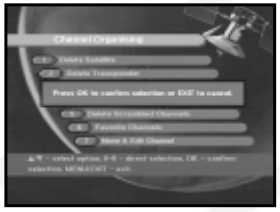
- Select the desired transponder list you want to delete by pressing **Red ( )** key.
- Press (OK) key for confirmation.

Note : This feature doesn t delete transponder itself but deletes the list of channels registered for transponder.

2.3 Delete Channel

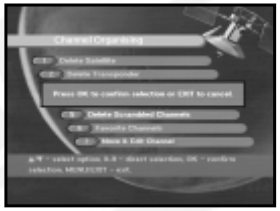
- Select the desired channel you want to delete by pressing **Red ( )** key.
- Press (OK) key for confirmation.

2.4 Delete All Channel



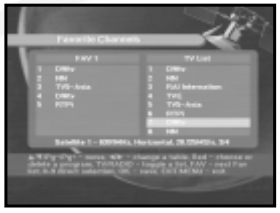
At the request window, press (OK) key to delete all channels and press **MENU** / **EXIT** to exit.

2.5 Delete Scrambled Channels



At the request window, press (OK) key to delete scrambled channels and press **MENU** / **EXIT** to exit.

2.6 Favorite Channel



You can change TV list or Radio list by **TV/RADIO** key and change favorite list by **FAV** key. This enables you to create the 9 favorite TV and Radio list.

- Select the desired channel list with ▲ / ▼ keys.
- When you press the **TV/RADIO** key, TV list and Radio list are toggled.

Right List : Adds a channel to the left list by pressing the **Red ( )** key.

Left List : Deletes a channel by pressing the **Red ( )** key.

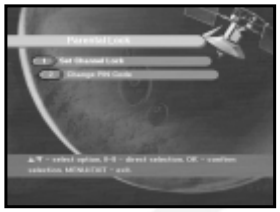
- Press **FAV** key to select another favorite list.
- Then press (OK) key for confirmation.

2.7 Move & Edit Channel

- Select the desired list with ▲ / ▼ keys.
- Select channel by pressing **Red ( )** key.
- Press ◄ / ►, P▲ / P▼ keys to change the position of the channel you want, and press (OK) key for confirmation.
- Press **Red ( )** key again to return to previous state
- If you want to return the channel to the initial position, do not press (OK) key but press **blue (AUDIO)** key.

- To edit channel name, press **Green (TEXT)** key. Font Table will be displayed.
- Select desired character with ▲ / ▼, ◄ / ►, and then press (OK) key to paste character to the string.
- Press **MENU** key to save tge set data.

3. Parental Lock



This "**Parental Lock**" feature sets viewing restrictions and prevents unauthorized access to your DSR9500 through the PIN (Personal Identification Number), which is a 4 digit number.
(The factory preset PIN code : **0000**)

On selecting this menu, you will have two options: to set lock for any desired channel and to change your PIN value.

- Enter PIN code.

If you have not entered your own PIN code then the **PIN** code **0000** applies, which was set at the factory.

3.1 Set Channel Lock

- Select the channel by pressing ◁/▷, P+/P-, ▲/▼.
- When you press the **TV/RADIO** key, TV list and Radio list are toggled.
- Select the channel lock by pressing **Red (i)** key.
- Press OK key for confirmation.

This will lock the channel. Whenever you need to view the channel, you will have to enter the PIN at the request window.

To cancel the lock :

- Press **Red (i)** key again in order to cancel the lock.

3.2. Change PIN Code

To change the PIN code, select the second option "**Change PIN Code**".

This will take you to the following menu:

In this option, you need to enter the current PIN code at the first cursor, and at the second cursor enter the desired PIN code.
To confirm, you need to enter the new PIN code again.

Please remember the PIN code should be a 4 digit numerical value.

THE FACTORY PRESET PIN CODE : **0 0 0 0**.

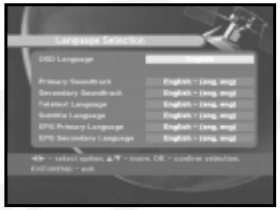
Note : If you forget the PIN Code, please refer to the following instruction;
1. Press **MENU** Key on the RCU
2. Select "**System Setup**"
3. Select "**System Information**"
4. Press "**0000**"

4. System Setup

This option enables you to change the factory preset system settings as per your requirements.

4.1. Language Selection

The "**Language Selection**"option allows the user to select the desired language of the OSD, Soundtrack, Teletext, Subtitle or EPG.



- To accommodate user from different regions speaking different languages.
- To select the desired language menu, press ▲/▼ keys to change language and press OK.
- The OSD Language, Soundtrack, Teletext, Subtitle, or EPG will vary according to the selected language.

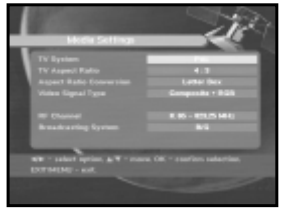
4.2 OSD Setting

You can set the OSD transparency and the display time.

- Select OSD Transparency type.
  The OSD Transparency level from 0 to 100%.
- Set the display duration of the information(banner) box displayed in the screen.
  The time ranges from 0.5 to 60.0 seconds.

4.3 Media Settings

You can set the various media settings you want.
Place the cursor on this sub menu and press OK .



- Select the TV system : PAL, SECAM.
- Select the **TV** type according to your **TV**: **STANDARD** 4: 3 ratio or **WIDE SCREEN** 16 : 9 ratio type.
- Select the aspect ratio conversion : Letter box, Pan & Screen, Mixed or Full.
- Select the Video Signal Type : Composite+RGB or Composite.
- Select the RF Channel.
- Select Broadcasting System : B/G, I or D/K.

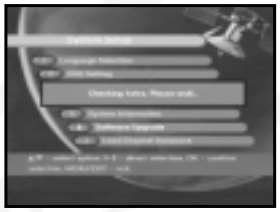
4.4 Time & Timer Setting

- Place the cursor on this sub menu and press OK .
- Press the P+ / P- , ◄/► keys to change the Local time in Time Zone.
  The local time will be changed according to your location.
- Press the ▲/▼ keys to choose event repetition you want to reserve :
  Daily, Every Sunday, Every Monday, Every Tuesday, Every Wednesday, Every Thursday, Every Friday, Every Saturday, Once.
- Press the **Numerical (0 ~ 9)** keys to set the time you want and press the ◄/► keys to choose a switch time you want to reserve.
- Select TV program to set the event program by pressing ▲/▼ keys.
  When you press the **TV/RADIO** key, TV program and Radio program are toggled.

4.5 System Information

If you have to contact your service provider or a service center they might ask for information available from this menu.
Place the cursor on this sub menu and press (OK) key.
The following will be the on-screen display.

4.6 Software Upgrade

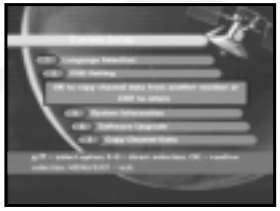


You can download and upgrade the software of this **STB** through ASTRA, Sirius and Hotbird satellite when the new software is released.

During downloading don't turn off the **STB**.

If there is a new version of software to download, you are asked if you will update or not.
If you press (OK) key, the update starts right away.
In case update is impossible, you get this message "**You can't update software!**" Or in case you don't need to update, "**You don't need to update software!**" will be displayed.

4.7 Copy Channel Data



If you want to copy the channel data from one receiver to another, please follow the instruction below.
Please make your own channel data, such as favorite & lock channel with your own master box.
Then take your master box when you install another box.

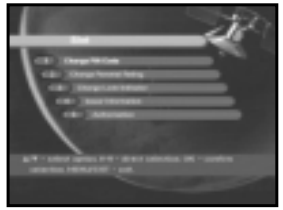
1. Plug on both master & slave receivers
2. Master Box(Installed Box) : Stand-by Mode
3. Slave Box(Installing Box) : Menu Mode
4. Connect 2 Boxes with RS232 serial cable (Both end should have male connector)
5. Select '**4. System Setup**'
6. Press '**7**' key on RCU
7. Press '**OK**' to start channel data copy

5. Common Interface

This STB is equipped with two PCMCIA slots, which enable the use of two CI-CAMS.
When a Common Interface CAM is inserted inside the PCMCIA slot,
the system detects the type of the CAM automatically and display in the main menu.
On choosing this menu, you will be able to access the different options available with the type of the CAM like authorizations, pre-booking, package details etc.,

SLOT A: You can see the Common Interface CAM's name which has been inserted.
SLOT B: "**Not installed**" is displayed when there is no CAM in slot.

6. Embedded Viacces



1. Change PIN code:
Change the PIN code of the Smartcard, if necessary.

2. Change Parental Rating:
Change the setting for the family filter, if necessary.

Note **:** This service is not offered by all channels.

3. Change Lock indicator:
You can change the lock status of the Viaccess Smartcard.

4. Issuer Information:
Here you can call up all information stored on the Smartcard by the publisher.

5. Authorization:
This option would indicate the authorization status of the Smartcard.

TROUBLESHOOTING

Problem	Possible cause	Solution of the problem
No display LED on the front panel; No power supply	Power cord not plugged in correctly	Power cord plug in correctly
No pictures on the screen	Receiver in Standby mode; Scart not connected tightly to video output of television; incorrect channel or video output selected on television	Set receiver to "On"; Check connection and correct; Check channel and video output and correct (TV instruction manual)
No sound	Audio cord connected incorrectly; Loudness level = 0; Muting active	Check connection and correct; Increase loudness on television set; Press the MUTE key
Remote Control does not operate directly	incorrect operation; Batteries dead or inserted incorrectly	Point remote control towards the Receiver. Replace batteries or insert correctly
Poor picture quality	Signal strength to low	Check the signal strength in the "Auto Scan" menu, correct alignment of your antenna
On-Screen Error Message "Searching for signal"	Antenna cable not connected or not tight; LNB defective; incorrect position of the satellite antenna;	Check connection and correct; Change LNB; Check position and correct, Check the signal strength in the "Auto Scan" menu
On-Screen Error Message "Channel data does not exist."	Satellite not yet set	Scan of in "Automatic scanning" or "Manual scanning" menu
On-Screen Error Messages: "Please check the Smartcard"; "Please insert the Smartcard".	Smartcard: - not plugged in correctly; - not plugged in.	(depend on model) Check the Smartcard. "Insert the Smartcard."

DISPOSAL

The device, packaging material (e.g. Styrofoam) and the batteries must never be disposed of with household refuse.
Please obtain appropriate information about the regulations in your community, and dispose of all refuse in accordance with regulations at the separate locations provided.

TECHNICAL SPECIFICATIONS

1. User section
4000 programmable channels, 7 segment LED display,
software download via satellite & PC, auto and manual scan facility,
advanced Electronic Program Guide, channel organizing (programmable),
multi-language supported for OSD, SCARTS & RCA output,
DiSEqC 1.2 supported full function low power consumption
infrared remote control unit,

2. Tuner section
950 ~ 2150 MHz wide band tuner, supporting DiSEqC 1.2 version,
IF output with DC pass loop for analog receiver, 13 V/18 V switching,
22 KHz continuous tone control

3. Video section
DVB-S compliant, modulator output,
MPEG-2 video (MP@ML) compatible for both SCPC/MCPC,
2 - 45 Ms/s symbol rate supports aspect ratio 4:3 (normal) and 16:9 (wide screen)

4. Audio section
MPEG 1 audio layer I & II 32, 44.1 and 48 KHz sampling frequencies,
mono, dual, stereo and joint stereo audio mode, volume control and mute function through Remote Control Unit.

Power supply

Type:	SMPS
Input voltage:	95 ~ 240V AC 50/60 Hz
Fuse rating:	250 V/T2 A

Tuner

Freq. Range:	950 ~ 2150 MHz
Input signal level:	-65 ~ -25 dBm
First IF freq.:	479.5 MHz
Channel selection:	PLL frequency synthesizer
Input impedance:	75 Ω unbalanced
Connector type:	F type female
LNB power control:	13 V/18 V, 22 KHz tone
DiSEqC:	1.2 supported

Demodulator

Type:	QPSK DEMODULATION (DVB-S)
Symbol rate:	2 ~ 45 Ms/s
Inner FEC:	Viterbi Convolutional Coding Rate - 1/2,2/3,3/4,5/6,7/8
Outer FEC:	Reed Solomon Coding (204,188) t = 8

TECHNICAL SPECIFICATIONS

Video decoder

System decoding:	MPEG 2 ISO/TEC 13818 (transport stream)
Profile and level:	MPEG 2 MP@ML (4:2:2)
Data rate:	1~ 15 Mb/s
Video formats:	4:3 (normal) & 16:9 (widescreen)
Picture resolution:	720(H) x 576(V) x 50 fields/sec

Audio Decoder

System decoding:	MPEG 1 ISO/TEC 11172~3 layer I & II
Audio mode:	mono, dual, stereo, joint stereo
Sampling frequency:	32,44.1,48 KHz

A/V output

TV SCART:	VIDEO (CVBS, RGB), AUDIO R&L
VCR SCART:	VIDEO (CVBS), AUDIO R&L
RCA JACK:	VIDEO (CVBS), AUDIO R&L
SPDIF Digital Audio Output	
S-VHS	YC p_p 1Volt (±10%)

RF modulator

Modulator output:	CH 21_69 (preset to CH 21)
Video type:	PAL B/G, K, I
UHF output level:	70±5 dBµV
Output connector:	IEC male
Ant. O/P connector:	IEC female
Tuning method:	PLL frequency synthesizer

Serial data interface

Standard:	RS232C, Max. 115.2 kB
Connector type:	9 pin D-type female

Embedded descrambler

VIACCESS conditional access system.

Smart card

2 slots, embedded Viaccess:	interface & descramble

Common Interface

(For models DSR 9500 CI, DSR 9500 VIA CI)

Module Type:	PCMCIA TYPE II x 2
Available CAM:	VIACCESS, IRDETO, NAGRAVISION, CRYPTOWORKS, CONAX, SECA, Etc.

MEMO

3. Software Upgrade and Installation

3-1 Flash Memory Writing process

How to input software after changing Boot software and replacing Flash Memory.

3-1-1 JPI Setting Manual

1) JPI exe Program : Setting ver R1.80
Make C:\STM\ST20R1.80 folder in C and copy exe file.
Execute setup file in C:\STM\ST20R1.80 folder.

2) PC Setting
Execute vppi set in bin folder, opening C:\STM\ST20R1.80\bin folder
Port type in vppi set up : Auto Detect -> EPP
Access Mode : after altering Synchronous -> Interrupt,
Click Apply and close “vppi set up”.
Open Regedit exe in Windows (O) : regedit
HKEY_LOCAL_MACHINE double click -> SYSTEM double click -> CURRENT CONTROL SET double click -> SERVICES double click -> VxD double click
vppi set click -> *Access Mode : 0x00000002(2)
*Port Type : 0x00000003(3)

◆ Following line should be added at Autoexec.bat of PC.
SET ST20ROOT=C:\STM\ST20R1.80
SET STVM_HOME=C:\STM\ST20R1.80
SET TOOLSET=C:\STM\ST20R1.80

3) Caution
◆ When Defaulting in vppi set up (in case of not altering)
Access Mode : 0x00000003(3)
◆ Port Type : 0x00000000(0)
◆ When inputting boot program as JPI, following items should be omitted in C:\windows\system.ini file[386Enh].
device=C:\ST20SWC\tools\vwrun.386
device=C:\ST20SWC\tools\vb045st.386
device=C:\ST20SWC\tools\vb008st.386
* If copied by PPI, above items should be included.

3-1-2 Boot Software Input Process (Same Process in Main Software Installing)

<How to install software using JPI Adapter>

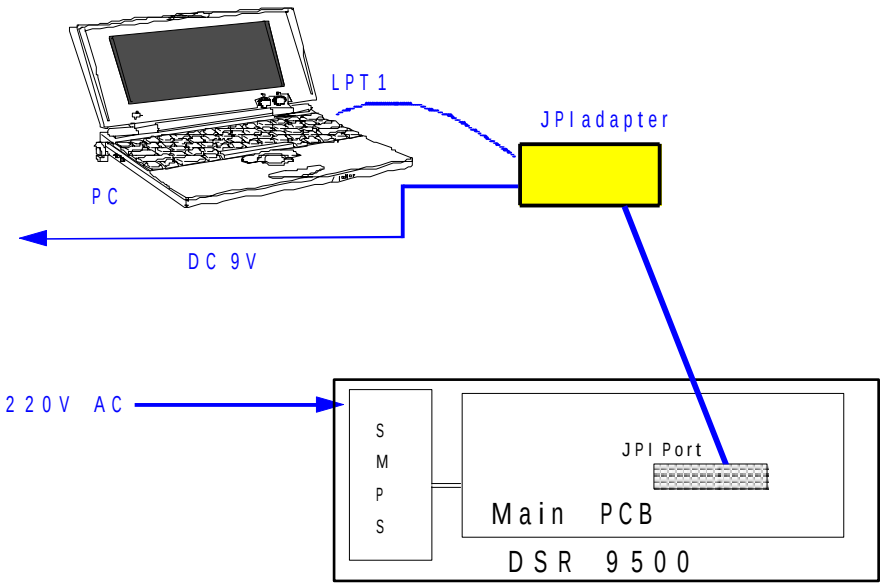


Fig. 3-1

❶ Prepare PC and JPI, DSR 9500 as above figure.
❷ Connect MAIN BOARD to JIG, JPI ADAPETER to JPI Port of MAIN PCB.
Then JP102(Jumper) Short of Main Board.
❸ Approve a power source of POWER SUPPLY in the product set.
❹ Convert PC into MS-DOS MODE.
❺ Execute C:\amd-boot\flash file name (SETTING UP ST20 DCU TOOLSET 1.6.2 SETTING END)
❻ After the power source of POWER SUPPLY OFF.
Then disassemble from JPI ADAPTER CONNECTER.

◆ SRF00901EA (FTA) -> C:\amd-boot\flash boot_FTA_9500_1
◆ SRF02901EA (CI) -> C:\amd-boot\flash boot_CI_9500_1
◆ SRV20901EA (EM VIA) -> C:\amd-boot\flash boot_VIACCESS_9500_1
◆ SRV22901EA (VIA CI) -> C:\amd-boot\flash boot_CI_VIACCESS_9500_1

“Message Check”
Program Start
Erased Block 65 OK!
Erased Block 66 OK!
Erased Block 67 OK!
Erased Block 68 OK!
Erased Block 69 OK!
received 65 block
entering fast mode programming sequence from C05e0000 to 7ffe0000
received 66 block
entering fast mode programming sequence from C05f0000 to 7fff0000
received 67 block
entering fast mode programming sequence from C05f8000 to 7fff8000
received 68 block
entering fast mode programming sequence from C05fa000 to 7fffa000
received 69 block
entering fast mode programming sequence from C05c0000 to 7fffc000
romtool : Operation Complete
Test Mode

3-1-3 MAIN Software Install Process

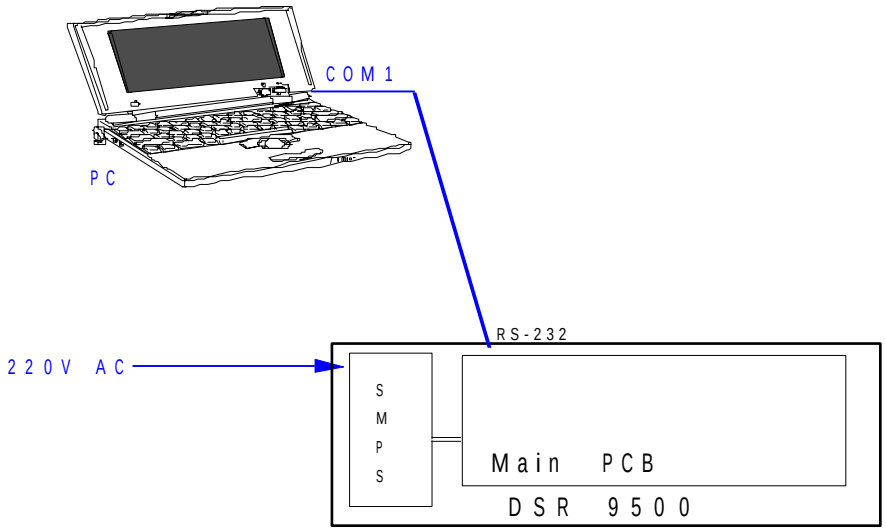


Fig. 3-2

❶ Open DSR.TRM file while executing HYPERTERMINAL of PC.
Port : Select to COM 1 port currently used.
Baudrate : 115200

❷ As Vol-up key of Front PCB presses, POWER(PLUG) ON.
- ◆ SRF00901EA : Samsung Brand FTA Model
  Loader version x. x
- ◆ SRF02901EA : Samsung Brand CI Model
  Loader version x. x
- ◆ SRV20901EA : Samsung Brand EM VIACCESS Model
  Loader version x. x
- ◆ SRV22901EA : Samsung Brand CI+VIACCESS Model
  Loader version x. x

❸ Send a file at Download ROM image. (PROTOCOL : 1K XMODEM)

❹ Select Main Program (C:\main\DSR9500_2002_04_03_120_44D2.bin) by each kinds as selecting the File Send of Transfer or Hyperterminal.

❺ Check if the normal message appears.

MEMO

1. Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including : control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people--particularly children --might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (See Fig. 1-1) :
   Warning : Do not use an isolation transformer during this test. Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

5. With the unit completely reassembled, plug the AC line cord directly the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including : antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

6. X-ray Limits :
   The picture tube is designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original.

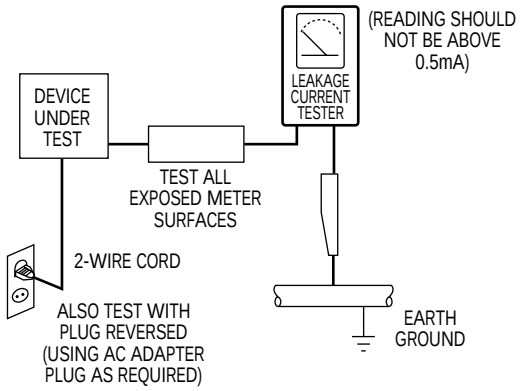

(READING SHOULD NOT BE ABOVE 0.5mA)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
TEST ALL EXPOSED METER SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Fig. 1-1 AC Leakage Test

7. Antenna Cold Check :
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong.
   Connect the other lead to the coaxial connector.

8. High Voltage Limit :
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.

   Heed the high voltage limits. These include the X-ray protection Specifications Label, and the Product Safety and X-ray Warning Note on the service data schematic.

9. Some semiconductor ("solid state") devices are easily damaged by static electricity.
   Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

10. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging Wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)

11. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

12. Design Alteration Warning :
    Never alter or add to the mechanical or electrical design of this unit. Example : Do not add auxiliary audio or video connectors.
    Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

13. Hot Chassis Warning :
    Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following : Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

14. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.

15. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

16. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

17. Observe the original lead dress, especially near the following areas : Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

18. Picture Tube Implosion Warning :
    The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

19. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

20. Product Safety Notice :
    Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.

    Components that are critical for safety are indicated in the circuit diagram by shading, (⚠ or ⚠).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

8. Schematic Diagrams

8-1 S.M.P.S. ---------- 8-2

8-2 Front ---------- 8-4

Main PCB

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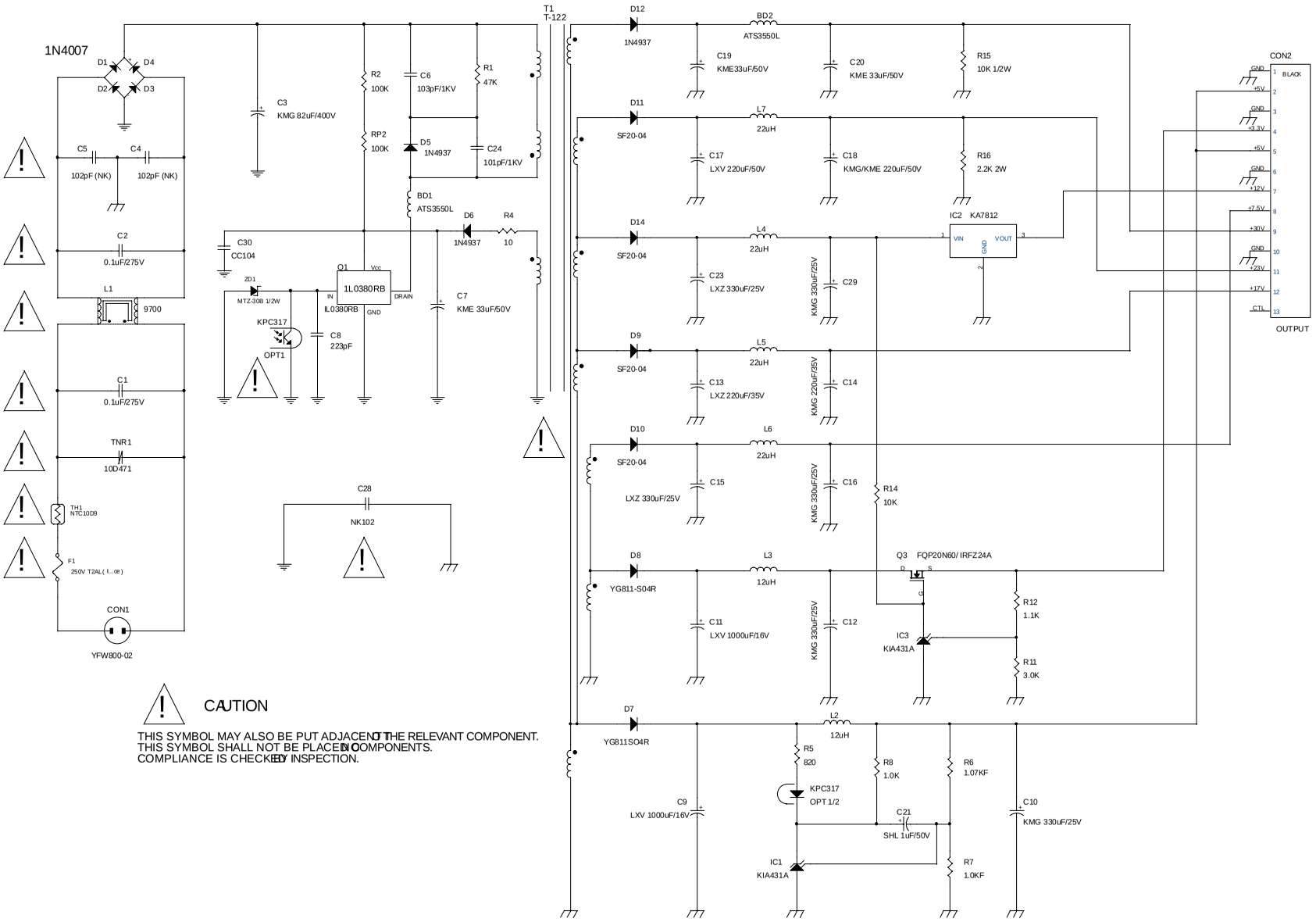
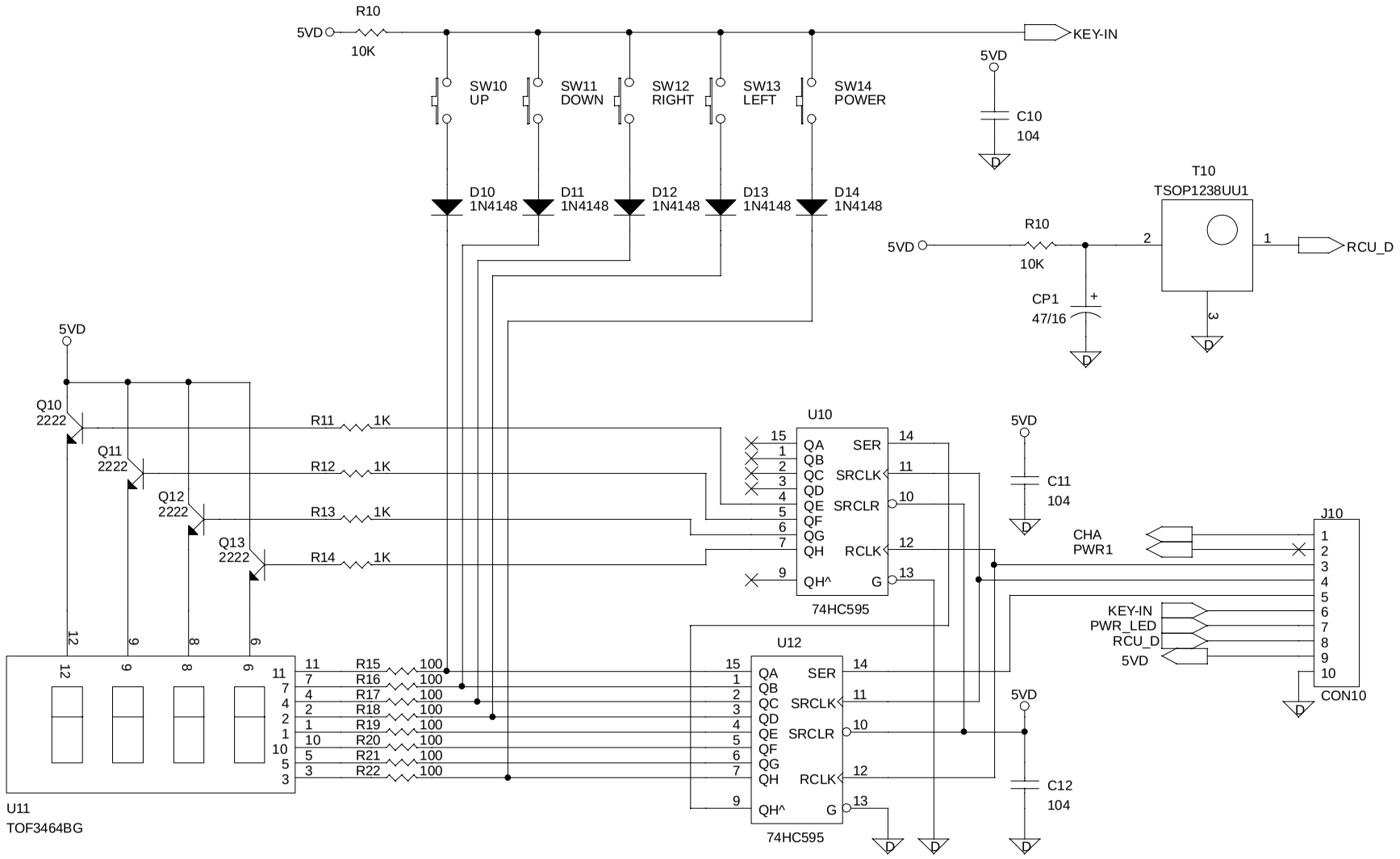
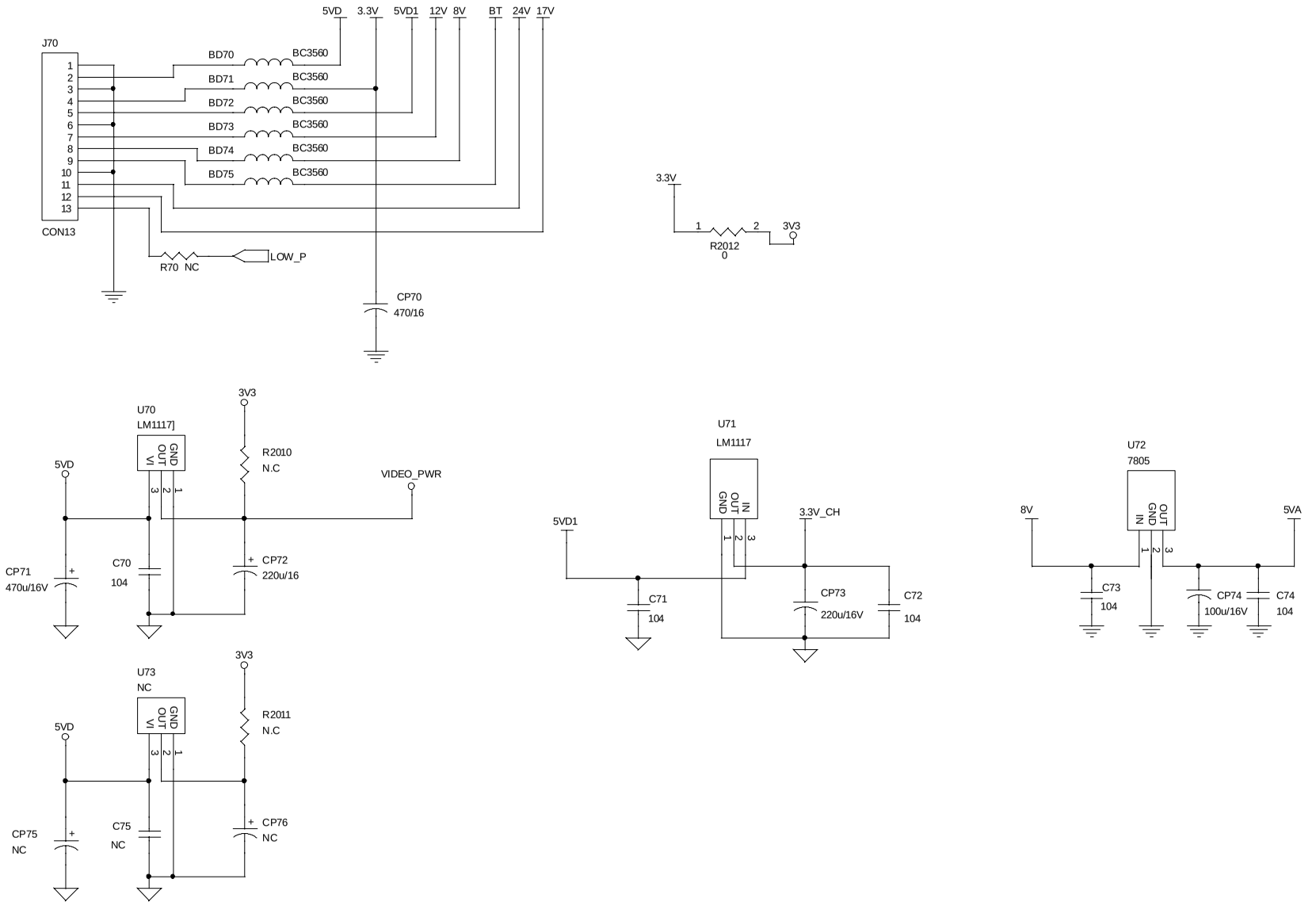
8-1 S.M.P.S.


1N4007
D1
D2
D3
D4
C5
102pF (NK)
C4
102pF (NK)
C2
0.1uF/275V
L1
9700
C1
0.1uF/275V
TNR1
10D471
TH1
NTC 10D9
F1
250V T2AL(l...ce)
CON1
YFW800-02
C3
KMG 82uF/400V
R2
100K
RP2
100K
C6
103pF/1KV
D5
1N4937
R1
47K
C24
101pF/1KV
BD1
ATS3550L
D6
1N4937
R4
10
C30
CC104
ZD1
MTZ-30B 1/2W
Q1
1L0380RB
Vcc
IN
DRAIN
GND
KPC317
OPT1
C8
223pF
C7
KME 33uF/50V
C28
NK102
T1
T-122
D12
1N4937
BD2
ATS3550L
C19
KME33uF/50V
C20
KME 33uF/50V
R15
10K 1/2W
D11
SF20-04
L7
22uH
C17
LXV 220uF/50V
C18
KMG/KME 220uF/50V
R16
2.2K 2W
D14
SF20-04
L4
22uH
C23
LXZ 330uF/25V
KMG 330uF/25V
C29
IC2 KA7812
VIN
GND
VOUT
D9
SF20-04
L5
22uH
C13
LXZ 220uF/35V
KMG 220uF/35V
C14
D10
SF20-04
L6
22uH
LXZ 330uF/25V
C15
KMG 330uF/25V
C16
R14
10K
D8
YG811-S04R
L3
12uH
C11
LXV 1000uF/16V
KMG 330uF/25V
C12
Q3 FQP20N60/ IRFZ24A
D
S
G
R12
1.1K
IC3
KIA431A
R11
3.0K
D7
YG811SO4R
L2
12uH
R5
820
KPC317
OPT 1/2
R8
1.0K
R6
1.07KF
C9
LXV 1000uF/16V
C21
SHL 1uF/50V
C10
KMG 330uF/25V
IC1
KIA431A
R7
1.0KF
CON2
BLACK
GND
+5V
GND
+3.3V
+5V
GND
+12V
+7.5V
+30V
GND
+23V
+17V
CTL
OUTPUT
CAUTION
THIS SYMBOL MAY ALSO BE PUT ADJACENT TO THE RELEVANT COMPONENT.
THIS SYMBOL SHALL NOT BE PLACED ON COMPONENTS.
COMPLIANCE IS CHECKED BY INSPECTION.

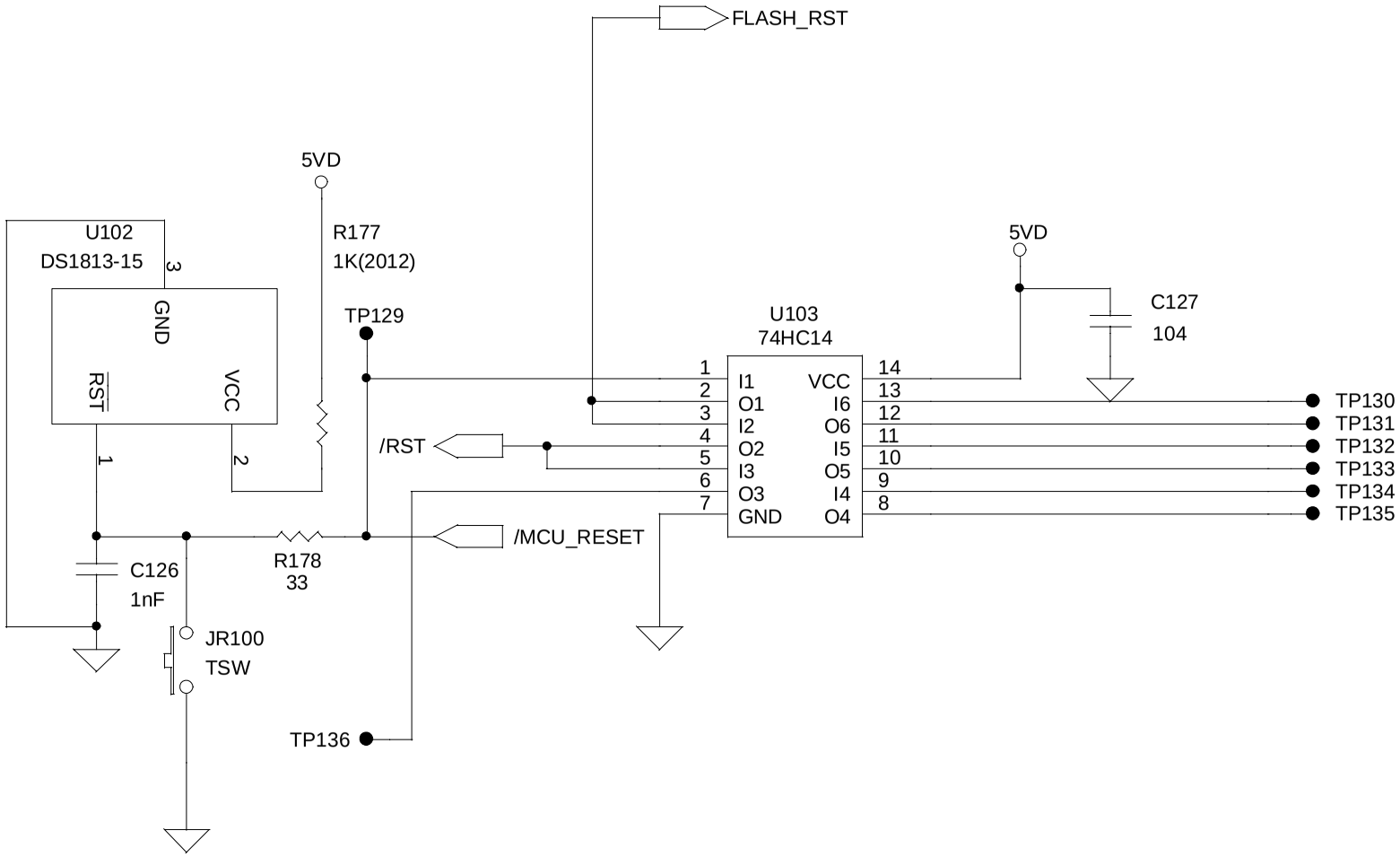
8-2 Front


R10
5VD
10K
KEY-IN
SW10
UP
SW11
DOWN
SW12
RIGHT
SW13
LEFT
SW14
POWER
C10
104
D10
1N4148
D11
1N4148
D12
1N4148
D13
1N4148
D14
1N4148
T10
TSOP1238UU1
RCU_D
CP1
47/16
Q10
2222
Q11
2222
Q12
2222
Q13
2222
R11 1K
R12 1K
R13 1K
R14 1K
U10
74HC595
C11
104
CHA
PWR1
J10
CON10
KEY-IN
PWR_LED
RCU_D
R15 100
R16 100
R17 100
R18 100
R19 100
R20 100
R21 100
R22 100
U11
TOF3464BG
U12
74HC595
C12
104

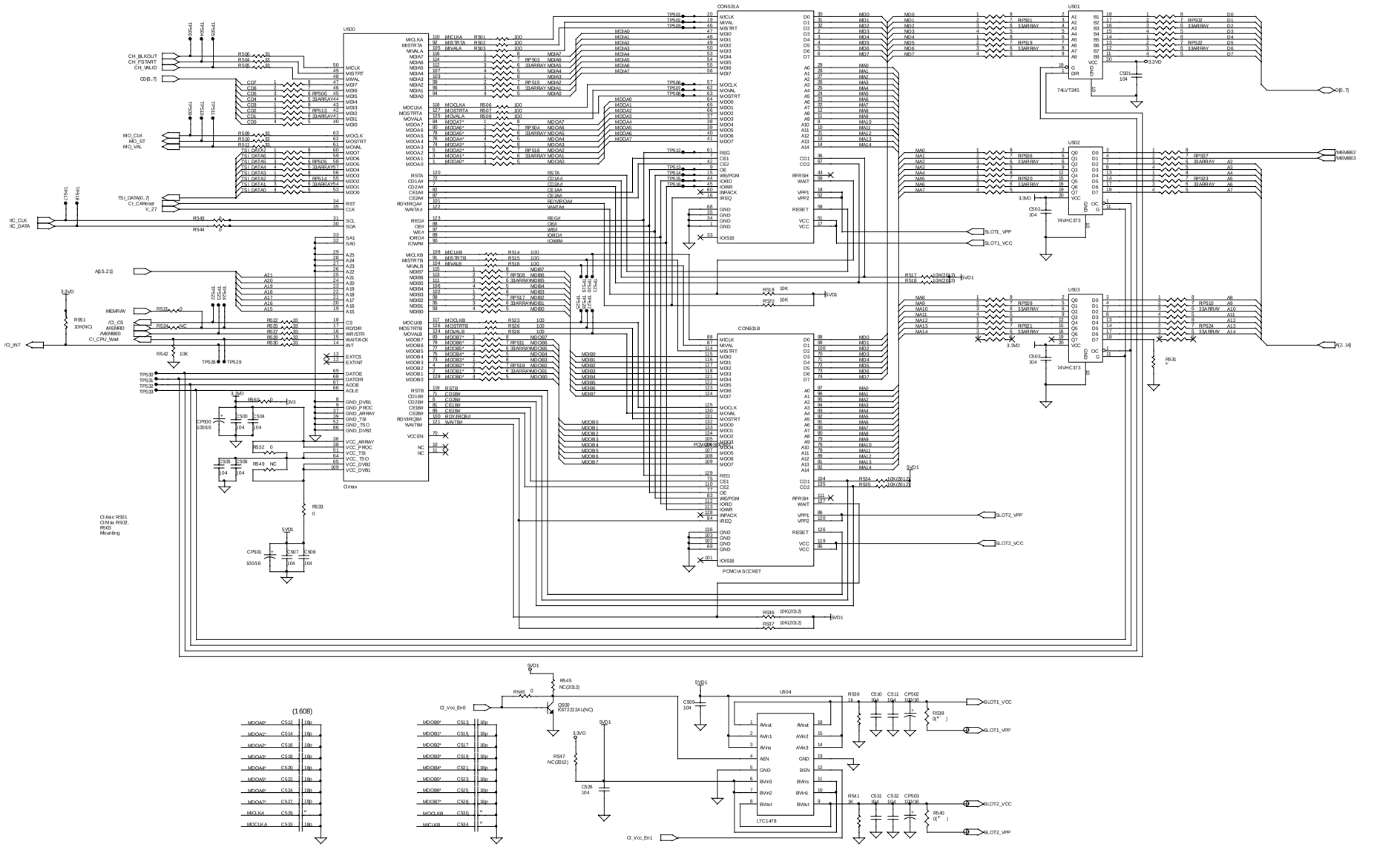
8-3 Power


5VD
3.3V
5VD1
12V
8V
BT
24V
17V
J70
1
2
3
4
5
6
7
8
9
10
11
12
13
CON13
BD70
BD71
BD72
BD73
BD74
BD75
BC3560
R70 NC
LOW_P
CP70
470/16
3.3V
1
2
3V3
R2012
0
U70
LM1117]
GND
OUT
VI
3V3
R2010
N.C
5VD
VIDEO_PWR
CP71
470u/16V
C70
104
CP72
220u/16
U71
LM1117
GND
OUT
IN
5VD1
3.3V_CH
C71
104
CP73
220u/16V
C72
104
U72
7805
GND
OUT
IN
8V
5VA
C73
104
CP74
100u/16V
C74
104
U73
NC
GND
OUT
VI
3V3
R2011
N.C
5VD
CP75
NC
C75
NC
CP76
NC

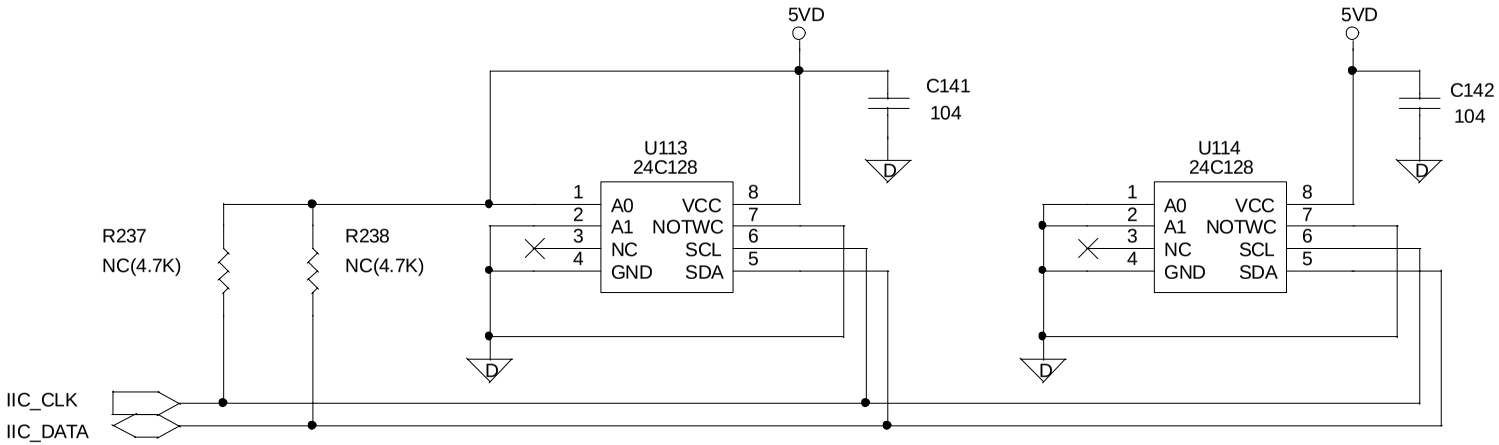
8-4 Reset


FLASH_RST
5VD
R177
1K(2012)
U102
DS1813-15
3
GND
RST
VCC
1
2
TP129
/RST
U103
74HC14
1
2
3
4
5
6
7
I1
O1
I2
O2
I3
O3
GND
VCC
I6
O6
I5
O5
I4
O4
14
13
12
11
10
9
8
5VD
C127
104
TP130
TP131
TP132
TP133
TP134
TP135
C126
1nF
R178
33
/MCU_RESET
JR100
TSW
TP136

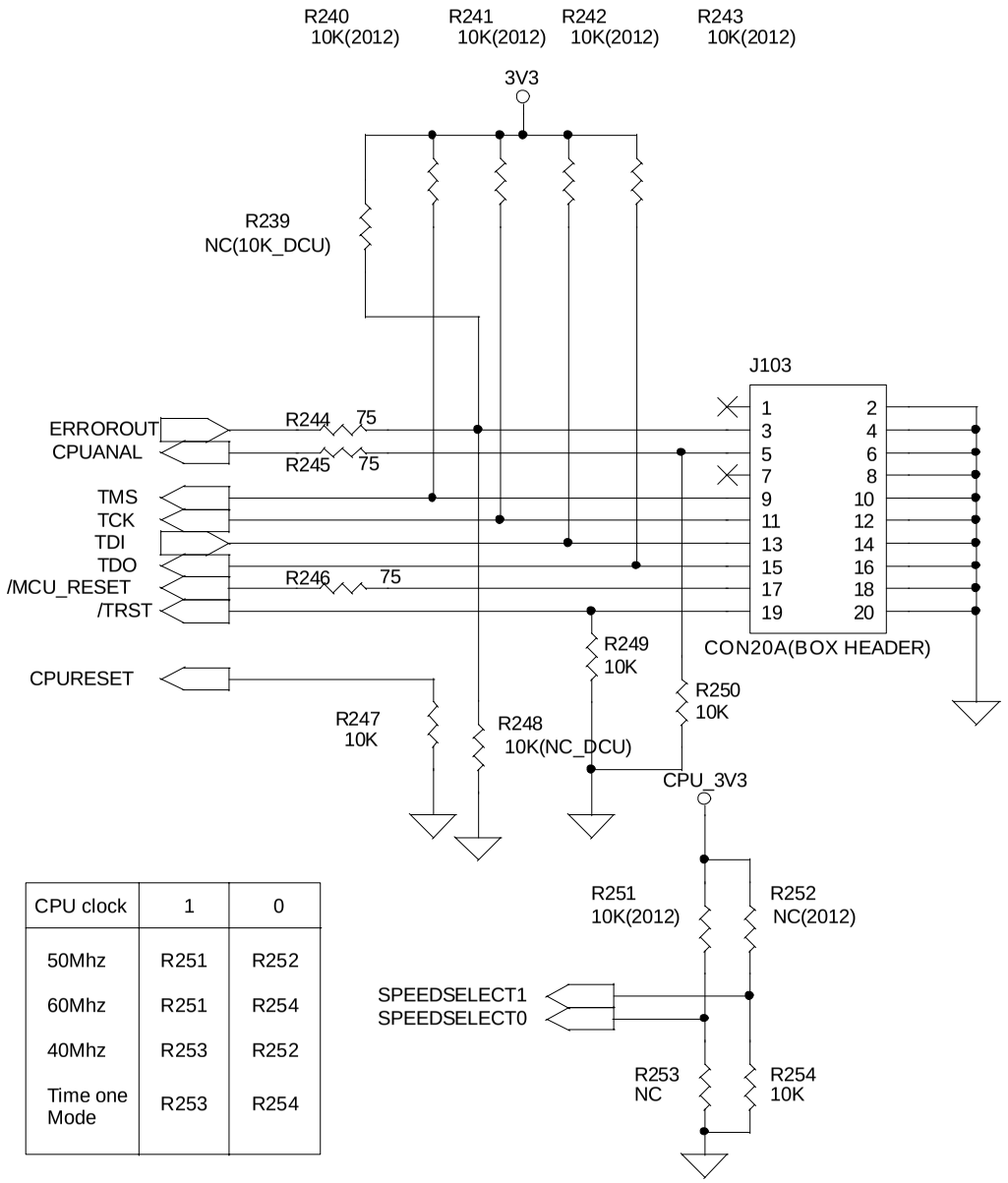
8-5 CIMAX (Only for CI, VIA CI Models)



8-6 NVM

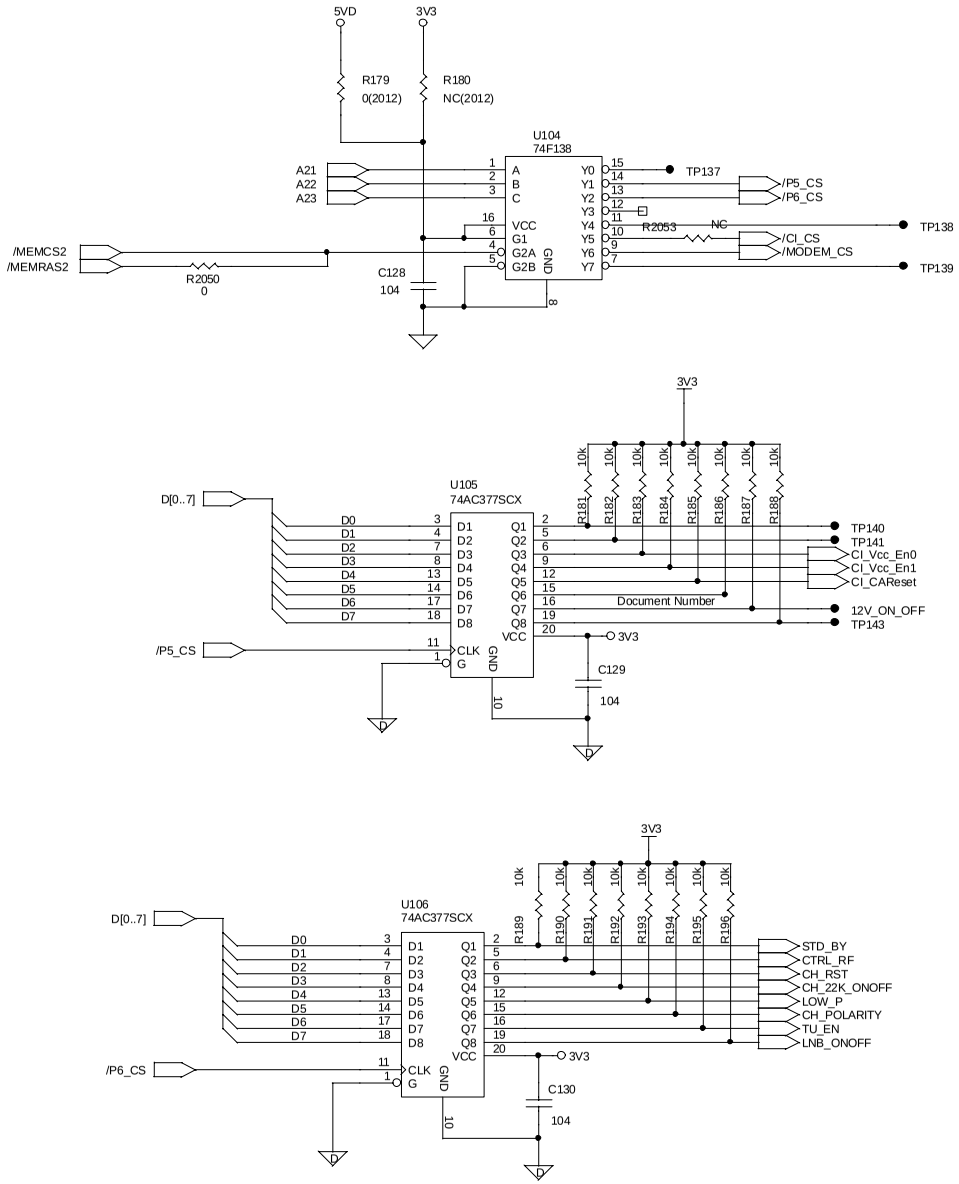

5VD
C141
104
U113
24C128
1
2
3
4
A0
A1
NC
GND
VCC
NOTWC
SCL
SDA
8
7
6
5
D
R237
NC(4.7K)
R238
NC(4.7K)
IIC_CLK
IIC_DATA
5VD
C142
104
U114
24C128
1
2
3
4
A0
A1
NC
GND
VCC
NOTWC
SCL
SDA
8
7
6
5
D

8-7 DCU

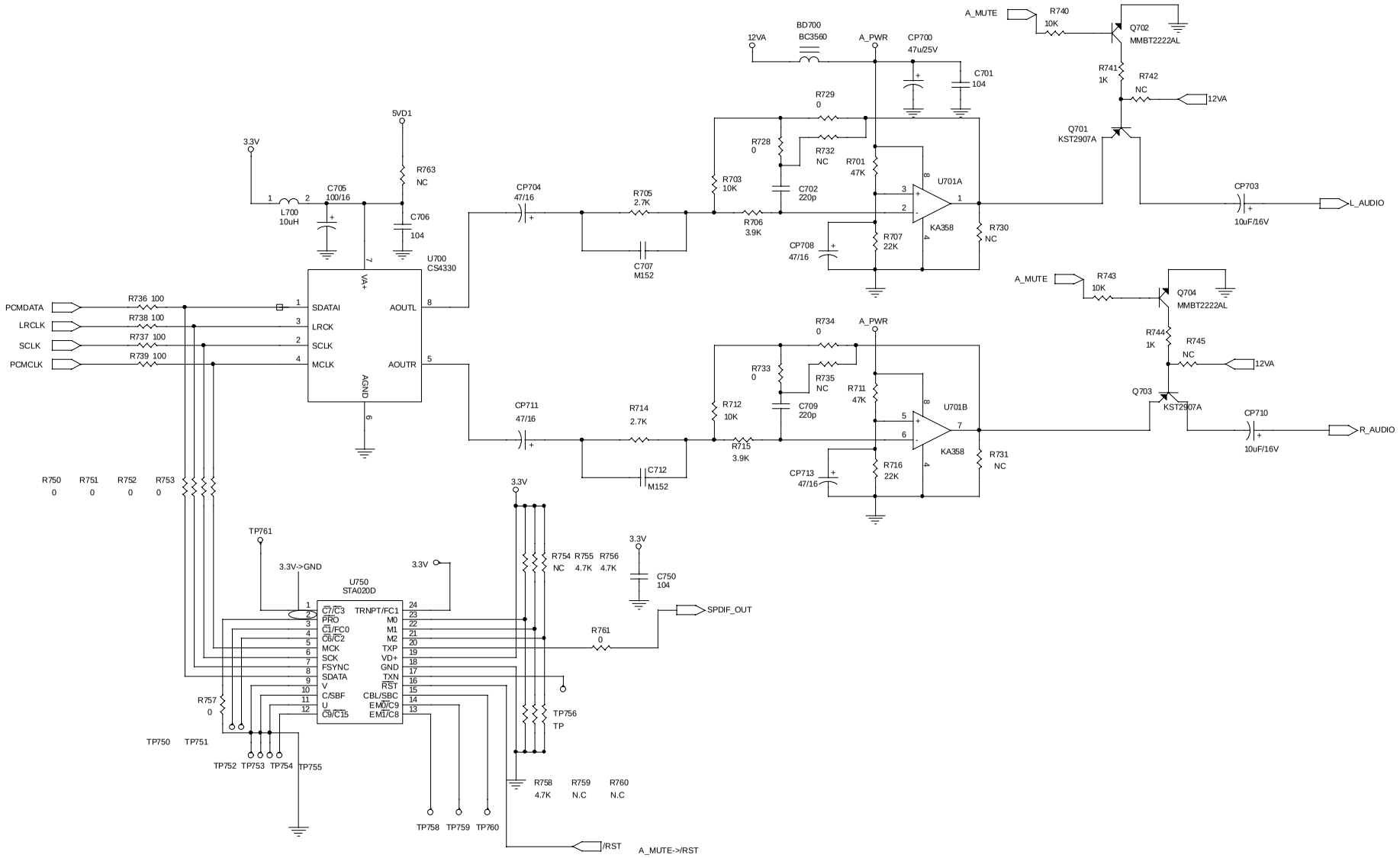


CPU clock	1	0
50Mhz	R251	R252
60Mhz	R251	R254
40Mhz	R253	R252
Time one Mode	R253	R254

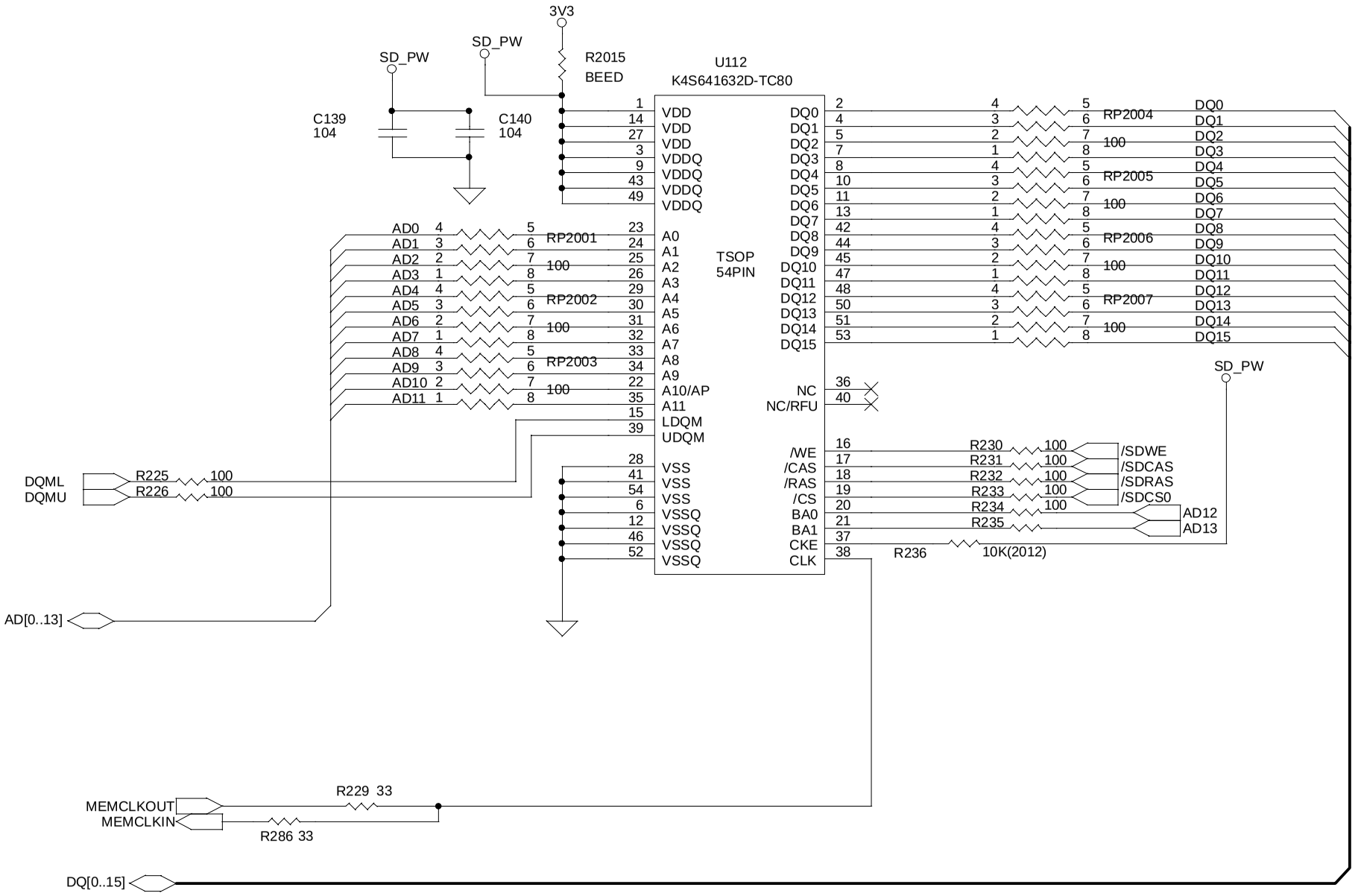
8-8 Sub-Bank


5VD
3V3
R179
0(2012)
R180
NC(2012)
U104
74F138
A21
A22
A23
A
B
C
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
TP137
/P5_CS
/P6_CS
R2053
NC
TP138
/CI_CS
/MODEM_CS
TP139
VCC
G1
G2A
G2B
GND
/MEMCS2
/MEMRAS2
R2050
0
C128
104
3V3
U105
74AC377SCX
D[0..7]
D0
D1
D2
D3
D4
D5
D6
D7
D8
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
CLK
G
/P5_CS
R181
R182
R183
R184
R185
R186
R187
R188
10k
TP140
TP141
CI_Vcc_En0
CI_Vcc_En1
CI_CAReset
12V_ON_OFF
TP143
Document Number
C129
104
U106
74AC377SCX
D[0..7]
/P6_CS
R189
R190
R191
R192
R193
R194
R195
R196
STD_BY
CTRL_RF
CH_RST
CH_22K_ONOFF
LOW_P
CH_POLARITY
TU_EN
LNB_ONOFF
C130
104

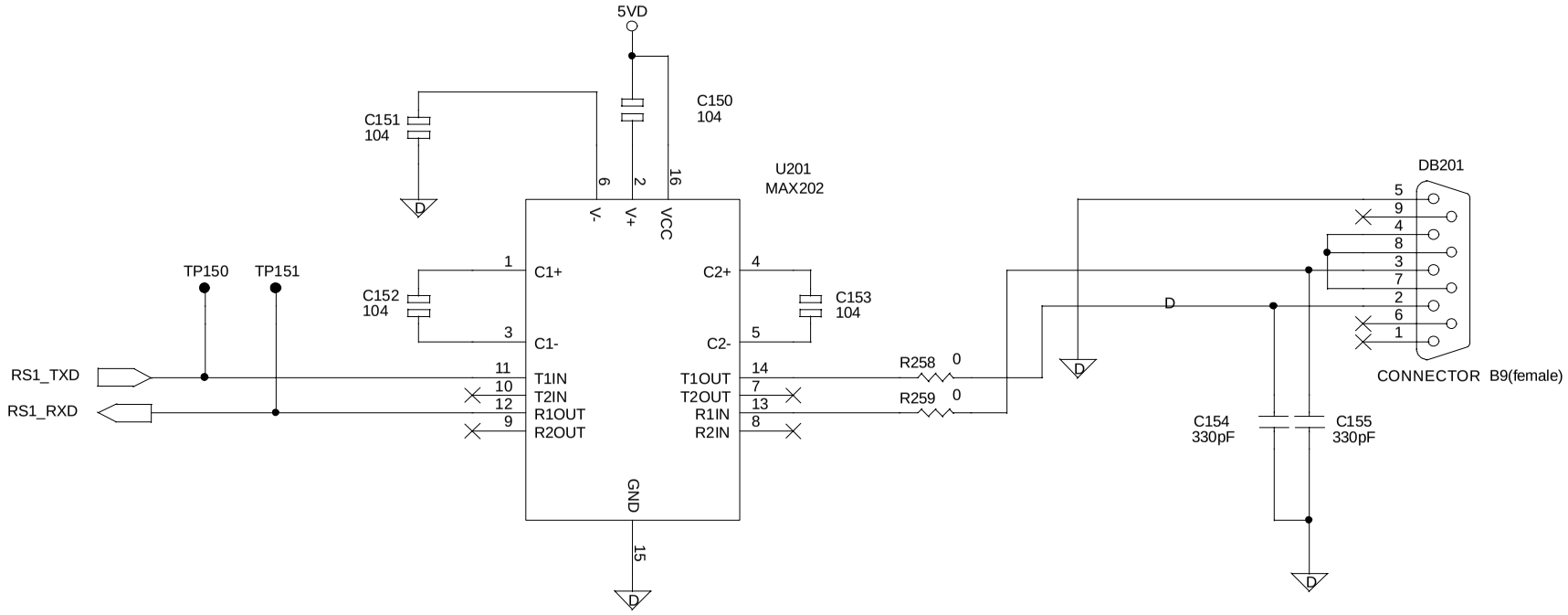
8-9 Audio


A_MUTE
R740
10K
Q702
MMBT2222AL
R741
1K
R742
NC
12VA
Q701
KST2907A
BD700
BC3560
12VA
A_PWR
CP700
47u/25V
C701
104
R729
0
R728
0
R732
NC
R701
47K
R703
10K
C702
220p
U701A
KA358
R730
NC
CP704
47/16
R705
2.7K
R706
3.9K
C707
M152
CP708
47/16
R707
22K
CP703
10uF/16V
L_AUDIO
5VD1
3.3V
R763
NC
C705
100/16
L700
10uH
C706
104
U700
CS4330
VA+
AGND
SDATAI
LRCK
SCLK
MCLK
AOUTL
AOUTR
PCMDATA
LRCLK
SCLK
PCMCLK
R736 100
R738 100
R737 100
R739 100
A_MUTE
R743
10K
Q704
MMBT2222AL
R744
1K
R745
NC
12VA
Q703
KST2907A
CP710
10uF/16V
R_AUDIO
R734
0
A_PWR
R733
0
R735
NC
R711
47K
R712
10K
C709
220p
U701B
KA358
R731
NC
CP711
47/16
R714
2.7K
R715
3.9K
C712
M152
CP713
47/16
R716
22K
R750
0
R751
0
R752
0
R753
0
TP761
3.3V->GND
3.3V
U750
STA020D
C7/C3
PRO
C1/FC0
C6/C2
MCK
SCK
FSYNC
SDATA
V
C/SBF
U
C9/C15
TRNPT/FC1
M0
M1
M2
TXP
VD+
GND
TXN
RST
CBL/SBC
EM0/C9
EM1/C8
R754 R755 R756
NC 4.7K 4.7K
C750
104
SPDIF_OUT
R761
0
R757
0
TP750
TP751
TP752
TP753
TP754
TP755
TP756
TP
R758 R759 R760
4.7K N.C N.C
TP758
TP759
TP760
/RST
A_MUTE->/RST

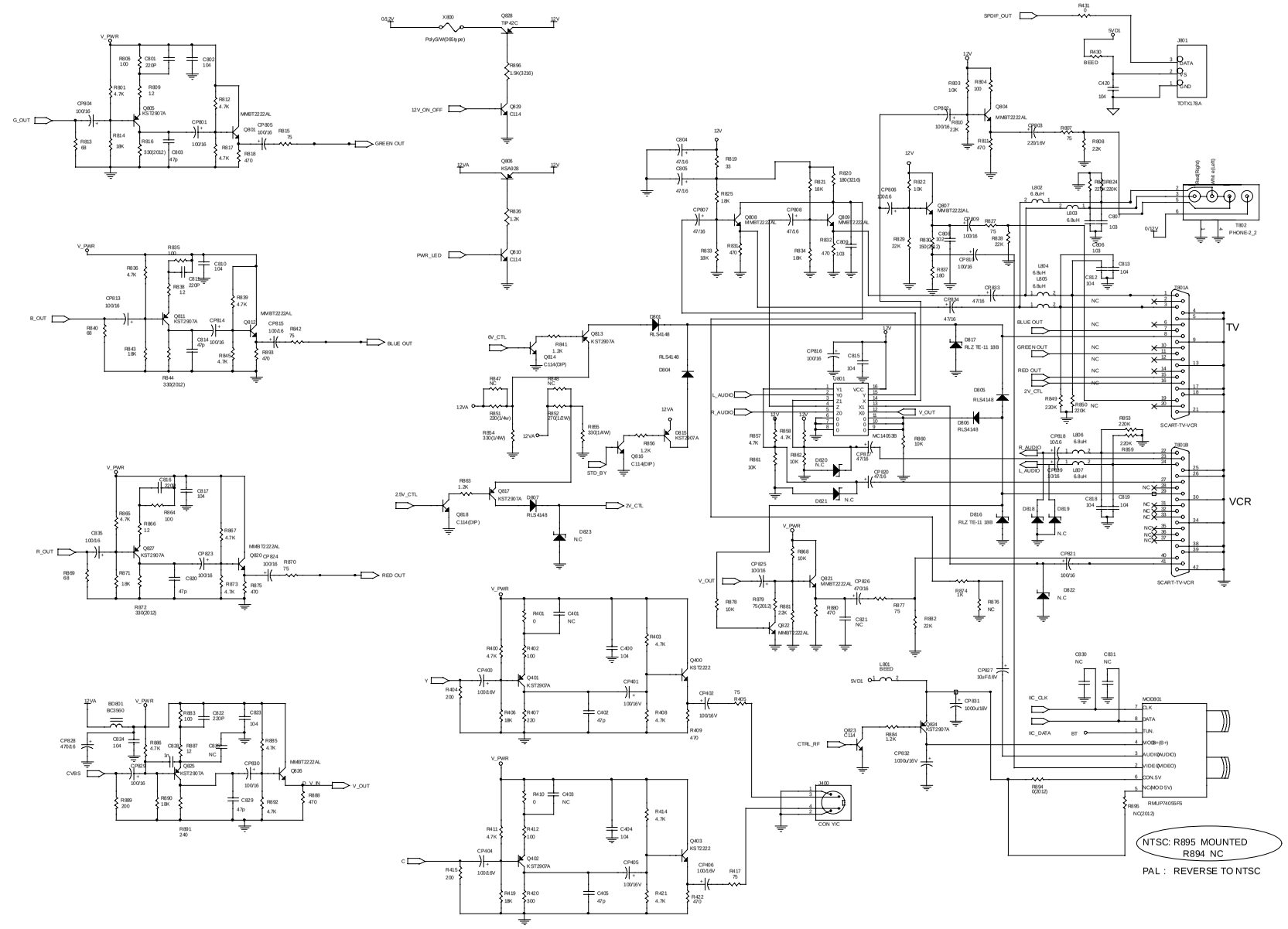
8-10 Video RAM



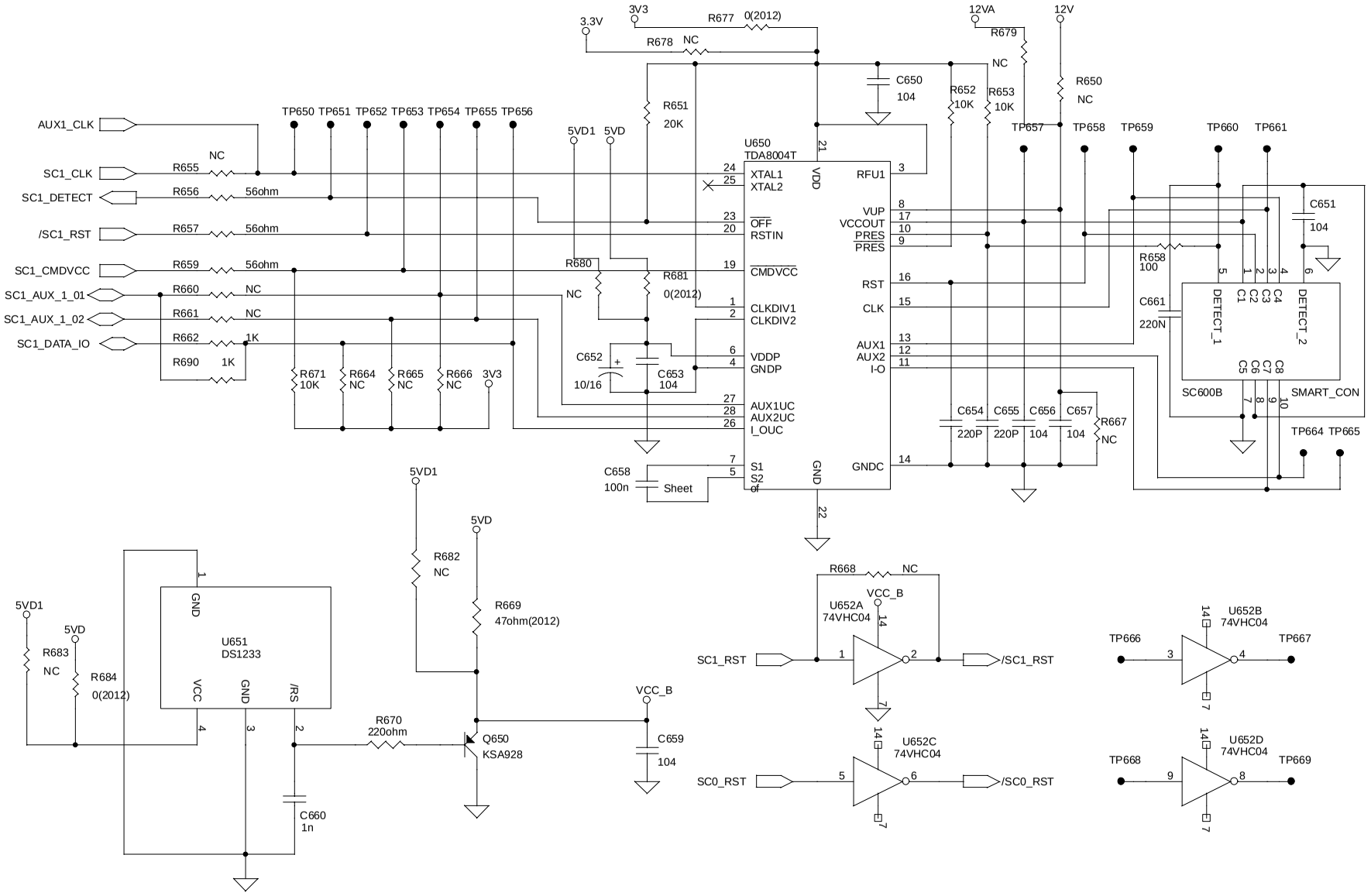
8-11 RS232


5VD
C150
104
C151
104
U201
MAX202
V-
V+
VCC
C1+
C1-
C2+
C2-
C152
104
C153
104
TP150
TP151
RS1_TXD
RS1_RXD
T1IN
T2IN
R1OUT
R2OUT
T1OUT
T2OUT
R1IN
R2IN
GND
R258
R259
0
DB201
CONNECTOR B9(female)
C154
330pF
C155
330pF
D

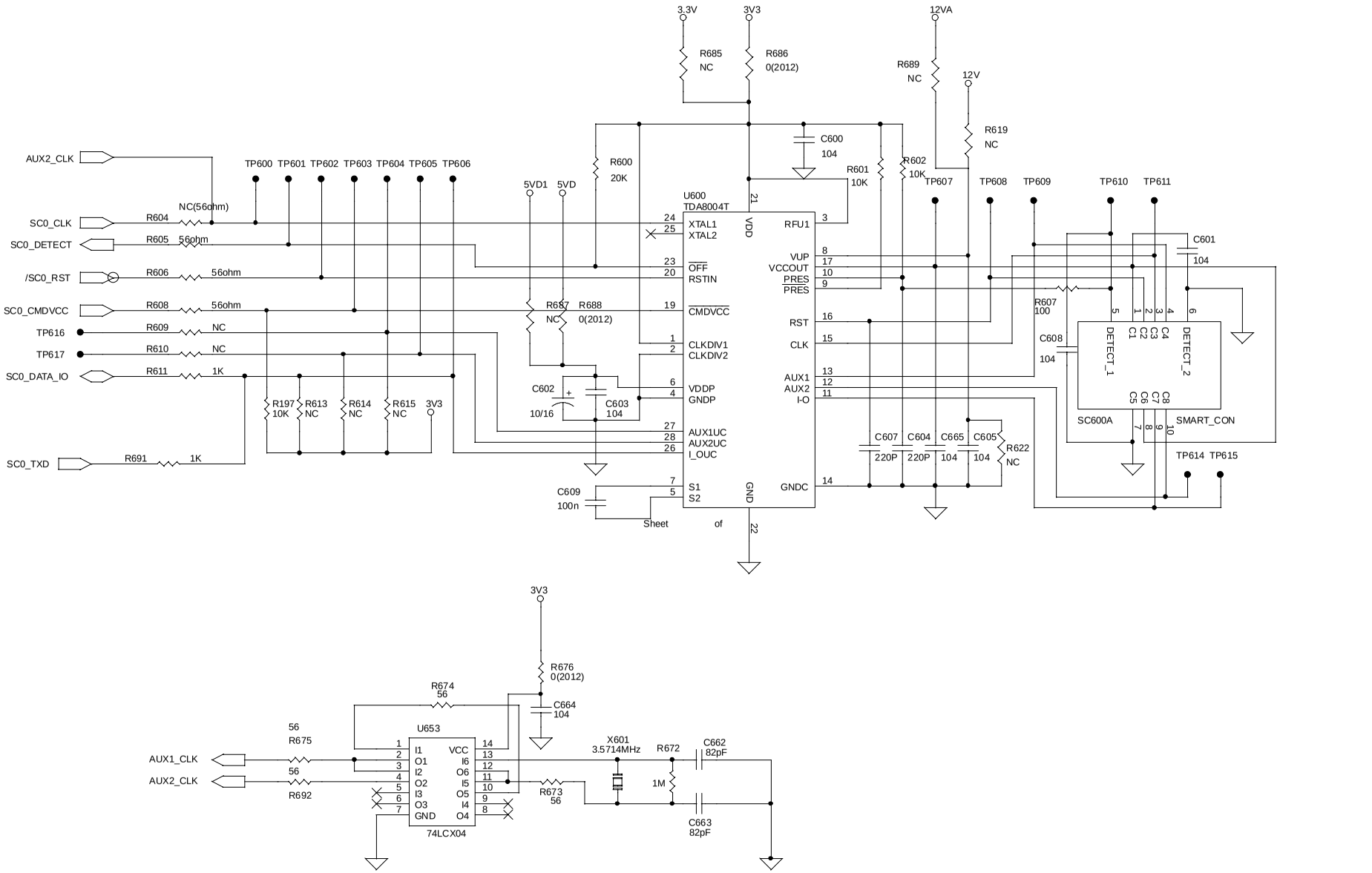
8-12 Output


TV
VCR
SCART-TV-VCR
SCART-TV-VCR
TOTX178A
PHONE-2_2
RMUP7409SFS
CON Y/C
NTSC: R895 MOUNTED
R894 NC
PAL : REVERSE TO NTSC

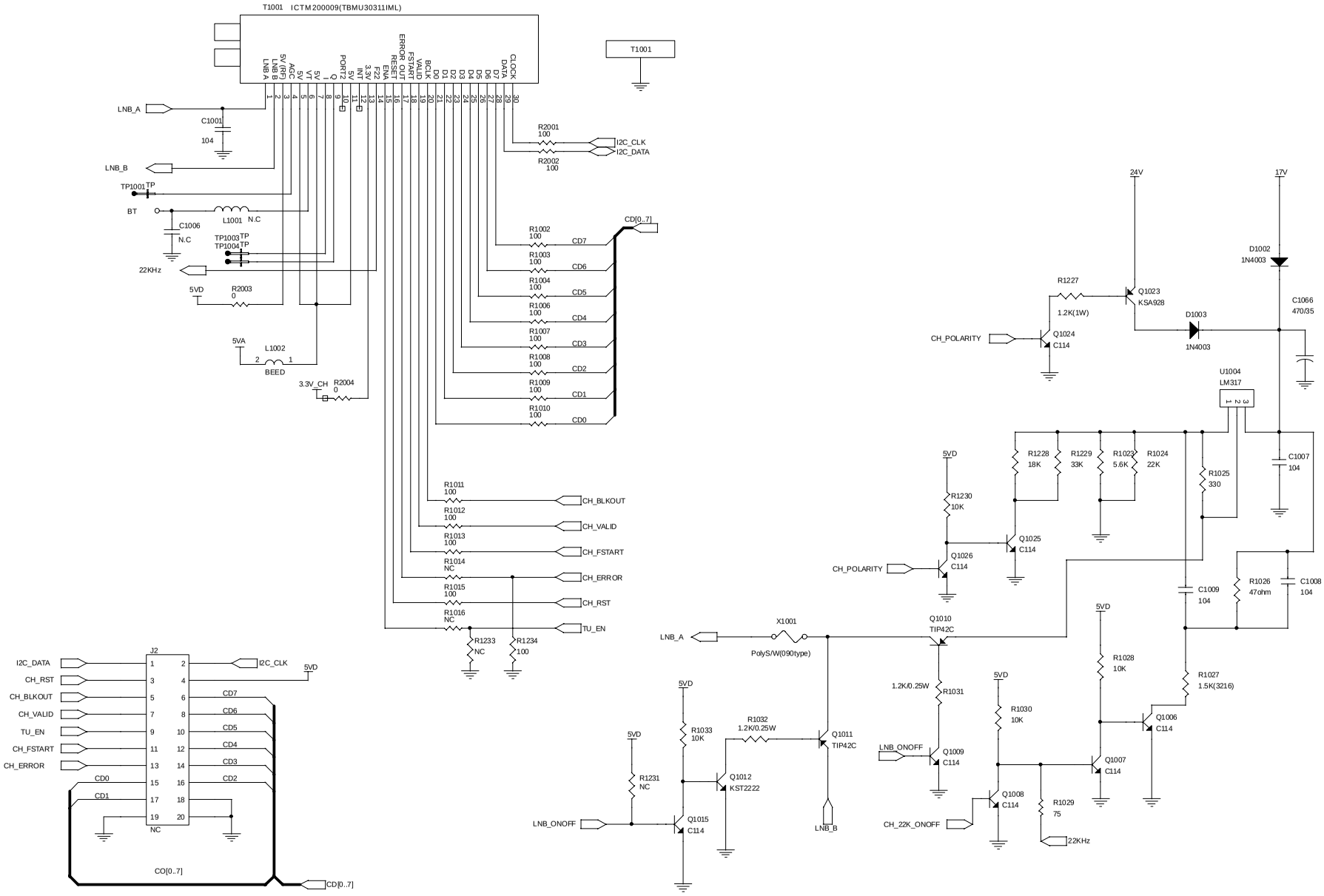
8-13 Smart Card #0 (Only for EM VIA, VIA CI Models)



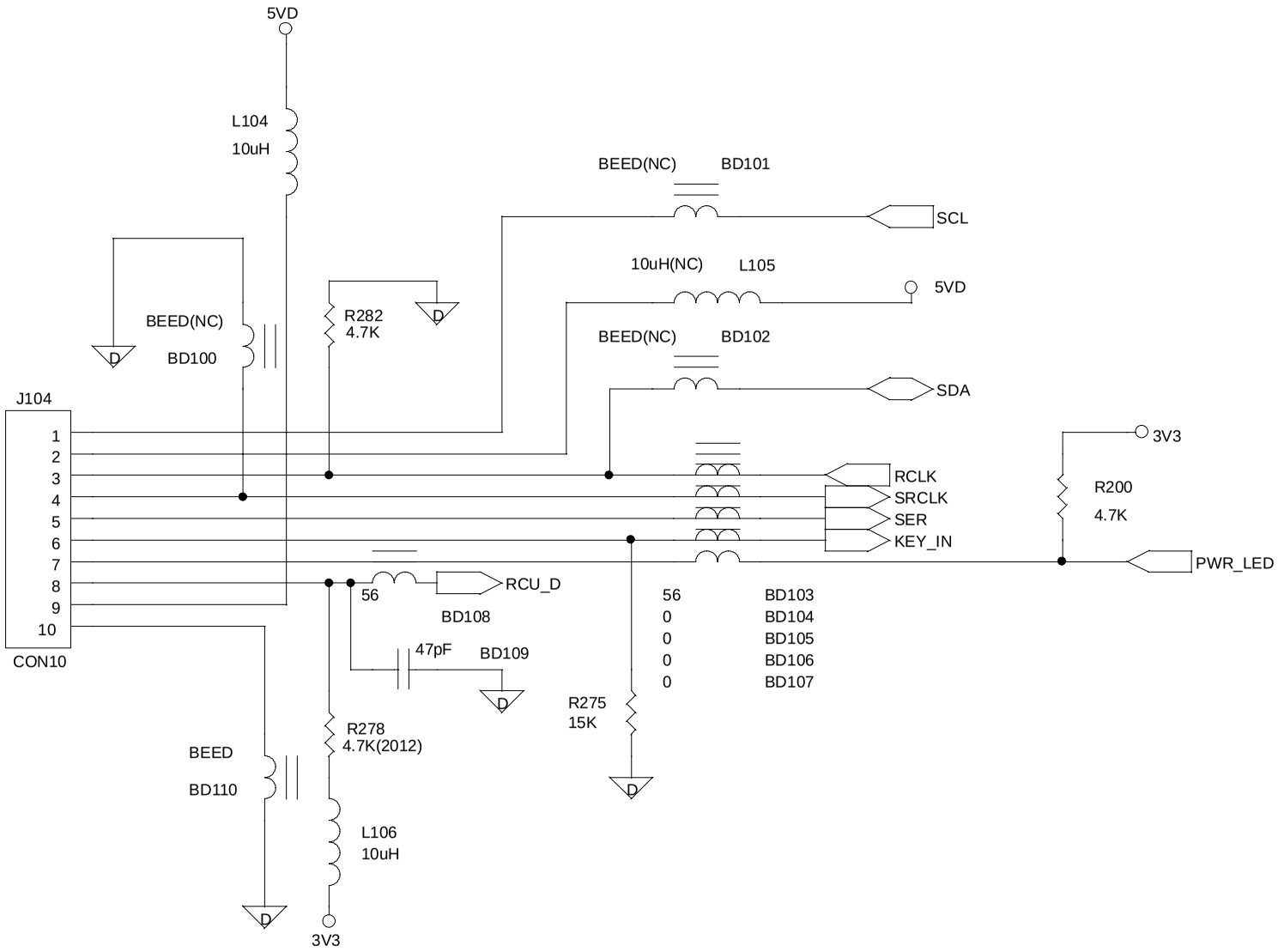
8-14 Smart Card #1 (Only for EM VIA, VIA CI Models)



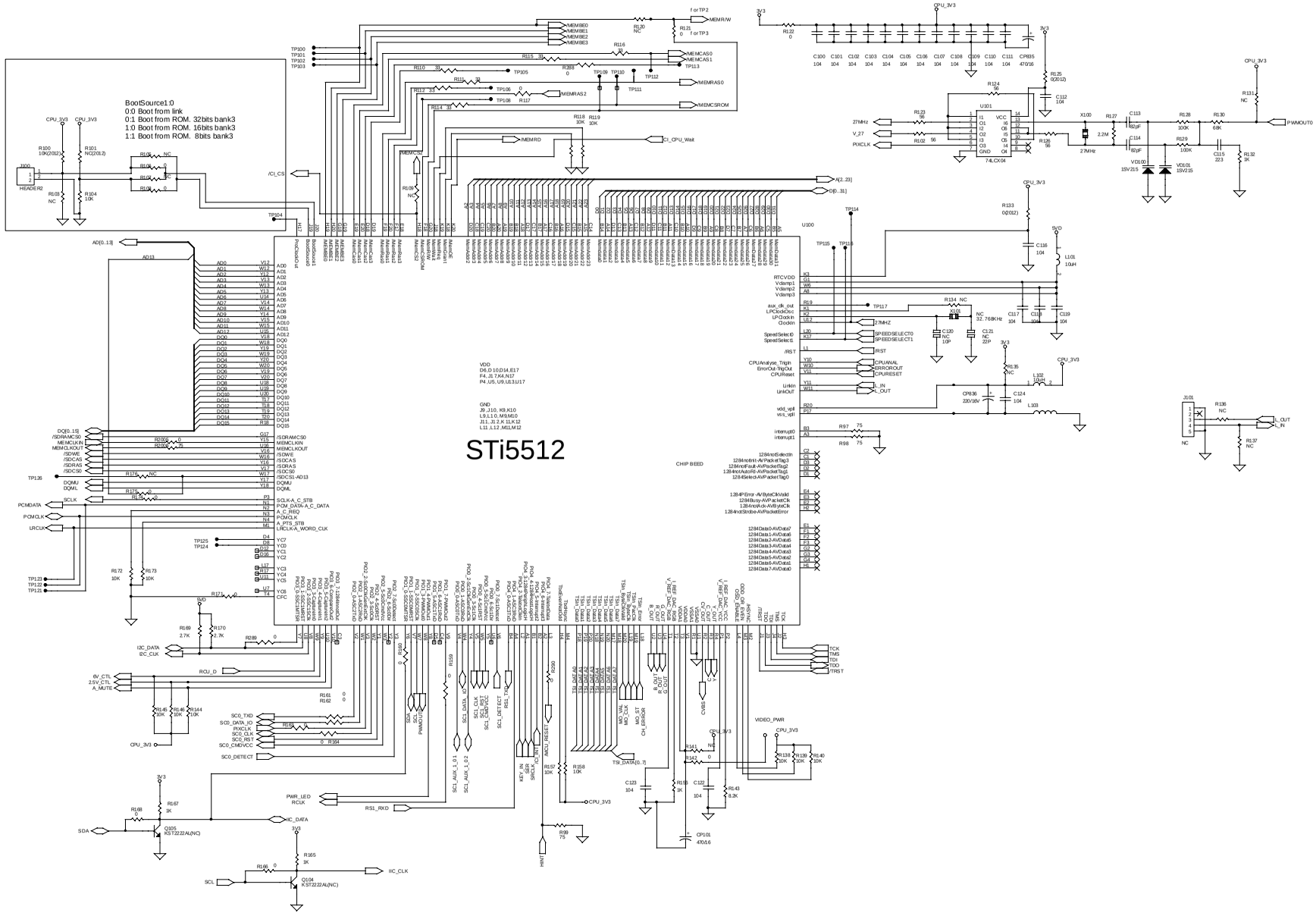
8-15 Channel


T1001 ICTM200009(TBMU30311IML)
T1001
LNB_A
LNB_B
TP1001 TP
BT
C1001
104
L1001 N.C
C1006
N.C
TP1003 TP
TP1004 TP
22KHz
5VD
R2003
0
5VA
L1002
BEED
3.3V_CH
R2004
0
R2001
100
R2002
100
I2C_CLK
I2C_DATA
CD[0..7]
R1002 100 CD7
R1003 100 CD6
R1004 100 CD5
R1006 100 CD4
R1007 100 CD3
R1008 100 CD2
R1009 100 CD1
R1010 100 CD0
R1011 100 CH_BLKOUT
R1012 100 CH_VALID
R1013 100 CH_FSTART
R1014 NC CH_ERROR
R1015 100 CH_RST
R1016 NC TU_EN
R1233 NC
R1234 100
J2
I2C_DATA
CH_RST
CH_BLKOUT
CH_VALID
TU_EN
CH_FSTART
CH_ERROR
CD0
CD1
NC
I2C_CLK
5VD
CD7
CD6
CD5
CD4
CD3
CD2
CO[0..7]
CD[0..7]
24V
17V
D1002 1N4003
R1227
1.2K(1W)
Q1023 KSA928
D1003 1N4003
C1066 470/35
CH_POLARITY
Q1024 C114
U1004 LM317
5VD
R1228 18K
R1229 33K
R1023 5.6K
R1024 22K
R1025 330
C1007 104
R1230 10K
Q1025 C114
Q1026 C114
CH_POLARITY
C1009 104
R1026 47ohm
C1008 104
X1001
PolyS/W(090type)
LNB_A
Q1010 TIP42C
5VD
R1028 10K
R1027 1.5K(3216)
1.2K/0.25W
R1031
5VD
R1030 10K
Q1006 C114
5VD
R1033 10K
R1032 1.2K/0.25W
Q1011 TIP42C
LNB_ONOFF
Q1009 C114
Q1007 C114
5VD
R1231 NC
Q1012 KST2222
Q1008 C114
R1029 75
LNB_ONOFF
Q1015 C114
LNB_B
CH_22K_ONOFF
22KHz

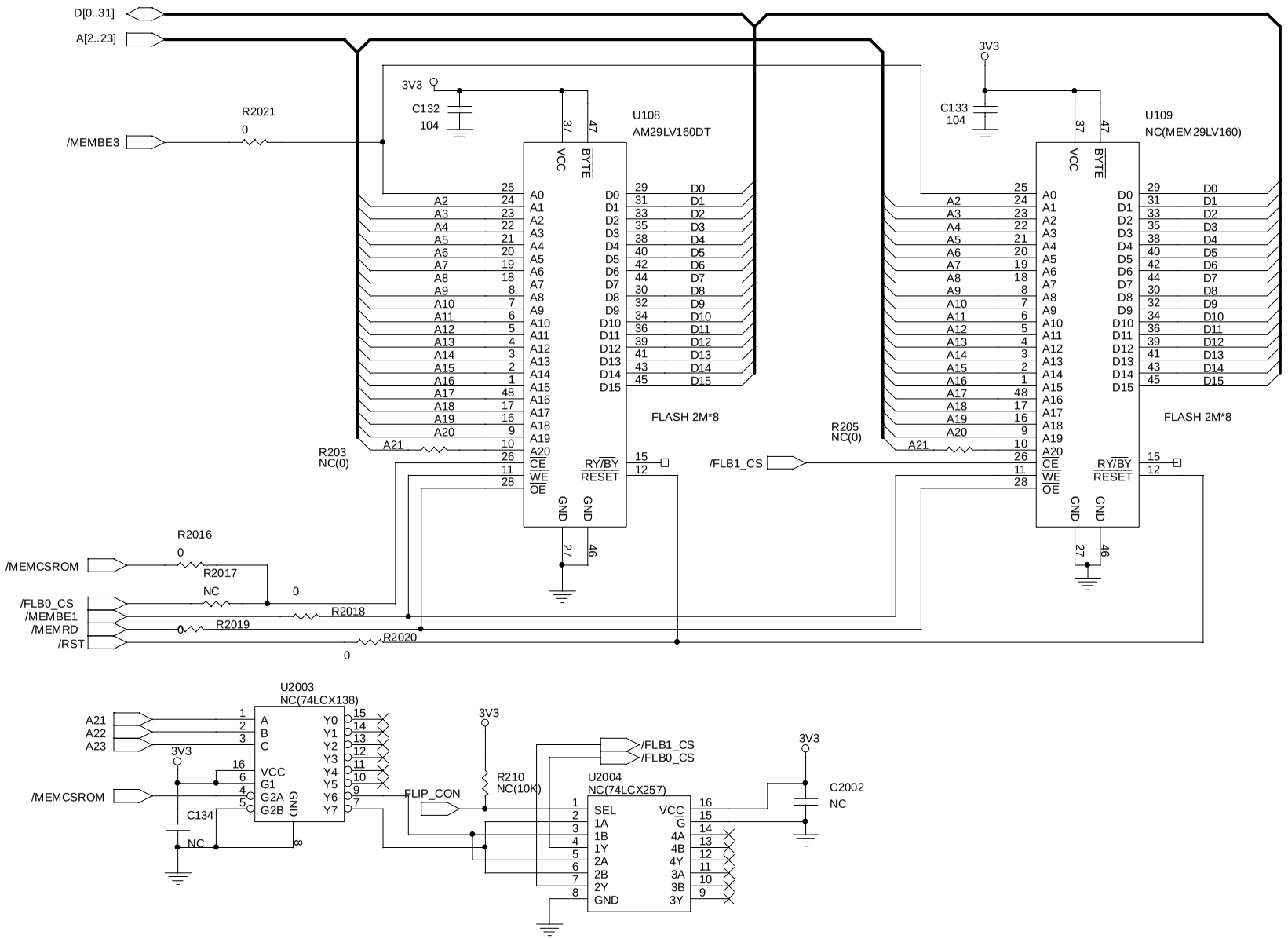
8-16 Front Connection



8-17 Main CPU


BootSource1:0
0:0 Boot from link
0:1 Boot from ROM. 32bits bank3
1:0 Boot from ROM. 16bits bank3
1:1 Boot from ROM. 8bits bank3
STi5512
CPU_3V3
3V3
5VD
/CI_CS
/MEMCS0
/MEMRD
CI_CPU_Wait
MEMR/W
/MEMCAS0
/MEMCAS1
/MEMRAS0
/MEMRAS2
/MEMCSROM
A[2..23]
D[0..31]
AD[0..13]
DQ[0..15]
/SDRAMCS0
MEMCLKIN
MEMCLKOUT
/SDWE
/SDCAS
/SDRAS
/SDCS0
/SDCS1-AD13
DQMU
DQML
SCLK
PCMDATA
PCMCLK
LRCLK
I2C_DATA
I2C_CLK
RCU_D
8V_CTL
2.5V_CTL
A_MUTE
SC0_TXD
SC0_DATA_IO
SC0_CLK
SC0_RST
SC0_CMDVCC
SC0_DETECT
PWR_LED
RCLK
RS1_RXD
IIC_DATA
IIC_CLK
SDA
SCL
PWMOUT0
L_OUT
L_IN
VIDEO_PWR
TSI_DATA[0..7]
TCK
TMS
TDI
TDO
/TRST

8-18 Flash Memory



8-19 Modem Interface (Option)